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**LIVED EXPERIENCES OF FAILURE  
AMONG HEALTHCARE ENTREPRENEURS:  
AN INTERPRETATIVE PHENOMENOLOGICAL ANALYSIS**

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of Doctor of Business Administration

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2020

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An interpretative phenomenological analysis.**

*Keywords*

Venture failure, individual-level effects, healthcare industry, qualitative hermeneutic phenomenology

**ABSTRACT**

Venture failure has been studied from the entrepreneur's perspective through previous qualitative research. However, very few studies have considered the specific business environment in which entrepreneurs operate. This thesis addresses entrepreneurial failure and focuses on the EU healthcare sector. The paucity of academic research combining the lived experience of venture failure and the healthcare industry context, highlights the importance of this study.

An interpretative phenomenological approach is used to provide situated insights, rich details and thick descriptions of participants' experiences whilst allowing appreciation of the business context and development of common themes. Through in-depth interviews with seven entrepreneurs, this study develops a deeper understanding of what it is like to experience venture failure in the healthcare industry.

Findings show that entrepreneurs were not only deeply affected by emotional hardship, but also suffered from detrimental social consequences as a result of stigmatisation and no longer being part of the healthcare industry. Findings suggest there is a relationship between entrepreneurial optimism, post-failure effects and longer-term outcomes, with a central role for healthcare entrepreneurs' intrinsic motivation.

This work adds empirical weight to the existing body of entrepreneurial failure theory. The exclusive focus on the healthcare industry adds a new perspective to academic theory and is also of value to entrepreneurship practice. Entrepreneurs' genuine desire to make a difference in healthcare, despite the industry's complexity and the challenges it entails, deserves more attention from policy makers, investors and other stakeholders in the healthcare ecosystem. Finally, the insights derived from the narratives of entrepreneurs who experienced failure, might help other entrepreneurs in their endeavours.

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## LIST OF ACRONYMS

CE	Conformité Européenne (European Conformity)
CFO	Chief Financial Officer
DBA	Doctor of Business Administration
EC	European Commission
E-Health	Electronic Health
EPO	European Patent Office
EU	European Union
FDA	Food and Drug Administration
GDP	Gross Domestic Product
GP	General Practitioner
HTA	Health Technology Assessment
IP	Intellectual Property
IPA	Interpretative Phenomenological Analysis
IPO	Initial Public Offering
IT	Information Technology
MBA	Master of Business Administration
MDR	Medical Devices Regulation
NESRI	National Economic and Social Rights Initiative
NHS	National Health Service
NICE	National Institute for Health and Care Excellence
NVZ	Nederlandse Vereniging van Ziekenhuizen (Dutch Association of Hospitals)
OECD	Organisation for Economic Co-operation and Development
RQ	Research Question
SMEs	Small and Medium-sized Enterprises
UK	United Kingdom
WHO	World Health Organization

## **ACKNOWLEDGEMENTS**

I would like to thank everyone who helped me on my DBA journey. Bumpy roads, detours, getting lost, delays and impending roadblocks could not stop me from reaching my final destination. This was not just because I stubbornly stood by my project but was, to a large extent, due to the people who supported and encouraged me throughout my studies. Of course, I could not have done it without the love and support on the 'home front', and above all, I would like to thank the people who guided and supported me academically.

My sincere thanks go to Dr David Spicer who supervised the very important last stages of my doctoral undertaking. Thank you for your pragmatic feedback on my draft work and your guidance towards completion and examination.

I also want to express my gratitude to two of my previous academic supervisors namely Dr Anna Zueva-Owens who encouraged me to carry out research on entrepreneurial failure, and Dr Caroline Parkinson who helped me with developing my research proposal and supervised part of the written work.

Furthermore, I thank the DBA support team at the University of Bradford for their support over the years and in particular Dr Andrew Smith for helping me navigate the programme and finding solutions for practical issues.

Finally, I wish to thank the lecturers that contributed to the inspiring and enjoyable taught modules, as well as my fellow DBA students – some of which were able to give a little extra push when I needed it.

*I dedicate this thesis to:*

*My wife Amaya, for her unconditional love, support  
and almost angelic patience.*

*My parents, for loving me, for believing in me.  
I owed you this one.*

# **1. INTRODUCTION**

## **1.1 Introduction**

Healthcare is under huge pressure due to ever-rising costs, an aging population, the rapidly increasing prevalence of chronic disease, the rise of long-term care, changing healthcare delivery demands and complexities in the ecosystem of providers, payers, suppliers and policy makers (Burns, 2012; Roehrich et al, 2014; Roncarolo, 2017; Warren-Jones, 2017). This raises the question whether healthcare can remain affordable and accessible to all. Both in healthcare research and practice there is consensus that change is needed (Van Olmen, 2010; OECD, 2016; Roncarolo et al., 2017; Deloitte, 2018). Using the words of Porter and Lee (2013, p. 51): “in health care, the days of business as usual are over” and opposed to the way health systems work currently, there is a need for value-based, patient-centric healthcare.

Despite healthcare systems’ struggle with rising costs, inefficiencies and uneven quality, the accomplishments in medicine are remarkable and deserve to be celebrated (Straus and Straus, 2006). Healthcare is both a locus and a consumer of innovation. Medical breakthroughs have contributed significantly to the human condition (Curtis, 2007). For example, thanks to medical breakthroughs such as the discovery of antibiotics, the invention of x-ray and other medical imaging technologies and the development of a wide array of pharmaceutical products, many medical conditions can be cured. Generally, people are now healthier and live longer. Furthermore, in healthcare literature, it is widely acknowledged that technological innovations can reduce costs (Gottlieb and Makower, 2013), improve quality (Kim and Lee, 2016), improve productivity (Blank and Van Hulst, 2009), and have the potential to enable convergence and integration within healthcare ecosystems (Phillips et al., 2017). Meindert et al. (2017) indicate that technology innovation is of

paramount importance to the implementation of value-based healthcare and system integration, on the condition that healthcare stakeholders work closely together and agree on liabilities, quality requirements and on the adoption of financial mechanisms that accommodate systemic changes.

In 2017, the European Patent Office (EPO) filed over 13,000 applications for medical technology, more than any other sector (MedTech Europe, 2019). The health technology industry thus plays an important role in solving issues in healthcare systems but faces a dual challenge which comprises the invention and commercialisation of new medical technology on the one hand and the clinical adoption by clients on the other hand (Scanlon and Lieberman, 2007; Burns, 2012). However, the business of healthcare innovation is a very challenging one, precisely because of the complex environment in which it operates, with its many stakeholders, and the stringent regulation that it is subject to. Bringing a new medical product or service to the market can be a daunting task and success depends on many factors.

In Europe, SMEs make up 95% of the medical technology industry (MedTech Europe, 2019) and account for much of the innovation across the sector. Most of these are small and micro-sized companies with less than 50 employees (EC, 2018a; MedTech Europe, 2019). Burns (2012) argues that entrepreneurs and start-ups probably bring more breakthrough innovations to patients than large health technology corporations. Unfortunately, healthcare venture survival rates are assumed to be low (Burns, 2012). Amongst other complexities, it is hard for start-ups and small firms to understand and successfully navigate through regulatory approval procedures and reimbursement policies and it is difficult to raise funding (Mas and Hsueh, 2017). Due to regulation and entrenched stakeholders, the lead times are longer and consequently entrepreneurs need quick commercial success in order to survive (Burns, 2012). This implies that healthcare entrepreneurs have needs that are different to those of other entrepreneurs and that their challenges are unique due to the system they work in (Maresova et al., 2015).

Considering their critical role in improving healthcare through innovation, this thesis aims to develop an understanding of individual healthcare entrepreneurs who dared to challenge the status quo, established commercial ventures that were committed to contribute towards the advancement of healthcare but failed in their endeavours. Although most new business ventures fail (Shane, 2009; Artinger and Powell, 2016) and failure rates in the healthcare industry are assumed to be even higher due to stringent regulation, and complexity across all facets of the healthcare ecosystem (Burns, 2012; Horgan et al. 2018; Barad, 2019; Grand and Zavala, 2020), little is known about the lived experiences of failure among healthcare entrepreneurs.

Existing literature indicates that venture failure has a profound impact on entrepreneurs' lives (Ucbasaran et al., 2013; Byrne and Shepherd, 2015) and remarkably, empirical studies are scarce (Cope, 2011, Jenkins et al., 2014; Corner et al., 2017). Venture failure is an emotional and traumatic experience (Shepherd, 2003; Ucbasaran et al., 2013; Corner et al., 2017) and its detrimental effects are complex and multi-faceted, impacting entrepreneurs' psychological well-being, economic position and social life (Singh et al., 2007; Cope, 2011). For this reason, it is important to engage with entrepreneurs who experienced failure and to develop an understanding of how they coped with the impacts of failure, made sense of the experience and moved on with their lives, whether undertaking new entrepreneurial initiatives or not. This study intends to make an academic contribution by developing a rich understanding of entrepreneurs' responses to and perceptions of their own failure. In addition, it takes a unique position by investigating venture failure seen through the eyes of entrepreneurs, set against the business context of the healthcare industry. Entrepreneurial failure in the healthcare industry is an area that has been hardly explored and insights generated through this research are expected to be helpful to entrepreneurship practice in general and healthcare entrepreneurship in particular.

The knowledge gap in the extant literature, research questions and objectives of this study are outlined below, followed by a brief discussion of the

significance of this research, comprising intended academic contributions and relevance to practice. Finally, the structure of the thesis is laid out.

## **1.2. Intended Academic Contribution**

### **1.2.1. Extant Theory**

The existing entrepreneurship literature only has few empirical studies that pursue to obtain a rich understanding of venture failure as experienced by individual entrepreneurs, especially when measured against the vast and explosively growing field of entrepreneurship (Meyer et al., 2014) which focuses predominantly on success (Singh et al., 2007). Only a small number of relevant studies address how entrepreneurs cope with and make sense of failure experience (e.g. Singh et al., 2007; Jenkins et al., 2014; Mueller and Shepherd, 2016; Corner et al., 2017). This is discussed more fully in the literature review in Chapter 3. Empirical research that takes a qualitative approach to failure experience by individual entrepreneurs, is even more scarce (e.g. Cope, 2011; Heinze, 2013, Byrne and Shepherd, 2015). The present study undertakes qualitative research to fill this gap.

Second, entrepreneurship has received little attention in healthcare research and predominantly focuses on entrepreneurial activity and innovation that occurs within the walls of institutional healthcare providers such as hospitals (Phillips and Garman, 2006; Breton et al. 2014), rather than on the industry that supplies medical innovation to the former. Remarkably, no qualitative research on lived experiences of venture failure with a particular interest in the commercial healthcare industry seems to exist, despite its importance to the advancement of healthcare (Burns, 2012; Meindert et al., 2017).

Chapter 3 of this thesis provides a review of existing literature on the effects of venture failure on the lives of individual entrepreneurs, which informs the core interest of this research, and also explores the adjacent field of cognitive psychology in an entrepreneurial context. Regarding the latter, there appears to be a lack of empirical studies that address cognitive mechanisms among

entrepreneurs, such as the optimism bias (Cossette, 2015). When put in the context of entrepreneurial failure, extant literature on cognitive mechanisms mainly focuses on the linkage to post-failure outcomes (e.g. Coelho and McClure, 2005; Cope, 2011) rather than acknowledging the holistic individual-level experience of venture failure that covers and interconnects pre-venture, actual failure, and post-failure reflections by entrepreneurs.

### **1.2.2. Contributions to Theory**

As the review of extant entrepreneurship literature revealed, the number of empirical studies that explore individual-level failure experience is rather limited. Especially studies that take a qualitative approach, are rare. The present study strives to contribute to qualitative entrepreneurship research that addresses venture failure as experienced by individual entrepreneurs, complementary to the work of, amongst few others, Cope (2011), Heinze (2013) and Byrne and Shepherd (2015). This study aims to generate insights that contribute to academic knowledge about lived experiences of venture failure. Rather than focusing on single elements of entrepreneurial failure, for instance learning from failure (Cf. Coelho and McClure, 2005; Cope, 2011) or sensemaking of venture failure (Heinze, 2013; Byrne and Shepherd, 2015), this study takes a holistic approach and examines the financial, social and psychological impacts of failure and links these to cognitive mechanisms that might help with developing an understanding of entrepreneurs who go through the various phases of venture development. The latter adds to previous work of e.g. Singh et al. (2007) and Jenkins et al., (2014) and builds on the work of Ucbasaran et al. (2010), Ucbasaran et al. (2013) and others.

Furthermore, a contribution of this research is that it focuses exclusively on entrepreneurial failure in the EU healthcare sector. In literature there has been little attention to entrepreneurship in the knowledge-intensive healthcare sector (Johnson and Bock, 2017), let alone venture failure. Hence, this study, which concentrates on the phenomenon of venture failure in this particular business context, is expected to add insights to entrepreneurship theory.

In summary, this thesis provides new insight in four key academic perspectives. Firstly, it is written from the perspective of a practitioner: an experienced manager who experienced venture failure himself and can therefore relate to the experiences and interpretations of the research's participants. Secondly, analysis of existing literature shows that there is a need for qualitative empirical research that aims to develop a deep and rich understanding of actual failure experiences among entrepreneurs, and this study offers an interpretative phenomenological view that allows for this. Thirdly, the conceptualisation of venture failure, rather than being a detailed exploration of a narrow field of research such as grievance theory or learning from failure, takes a broader view and aims to develop an understanding of the entire failure experience as perceived by entrepreneurs, across all venture stages and all aspects of failure. Finally, although perhaps more relevant to entrepreneurship practice than academia, the specific business context under research, namely the EU healthcare industry with all its peculiarities, might shed a light on the unique aspects of venture failure in this industry and can potentially contribute to the wider academic body of entrepreneurship theory.

### **1.3. Relevance to Practice**

This study is deemed to be of importance to healthcare and entrepreneurship practice, as it has the potential to develop a better understanding of healthcare entrepreneurship in general and venture failure in particular. This study intends to provide insights that are useful to healthcare entrepreneurs, policy makers, healthcare providers and other stakeholders in the healthcare domain. With regard to both the intended contributions to theory and practice, it must be accentuated that this is a DBA thesis which aims to bridge the perceived gap between research characterised either by academic rigour or practitioner relevance (Gibbons et al., 1994; Tranfield and Starkey, 1998; Aram and Salipante, 2003). Instead, it strives to have relevance through both, helped by the fact that the research is carried out by an academic practitioner whose experiences and interpretations might provide perspectives that add to the extant theory and are relevant to healthcare entrepreneurship practice.

Although it is aimed for and expected that this study will be of value to scholars who are interested in obtaining an understanding of how venture failure in the healthcare sector works in practice, the expectation is that practical relevance might prevail over making theoretical contributions. As argued by Baker and Welter (2017) entrepreneurship research benefits from broadening objectives, motivations and contexts of study and “become both more practical and more critical and thus more broadly useful and legitimate” (p. 170).

Because healthcare entrepreneurs play a critical role in bringing innovation to the market (Burns, 2012; Horgan et al., 2018), healthcare start-ups have boomed (Fortune, 2015) but many of them fail due to the challenges and complexities in healthcare, exploring failure through the stories and interpretations of the entrepreneurs involved, might be of practical value to all healthcare stakeholders. The participants of this study have other backgrounds than other entrepreneurs (i.e. medical background or long-time experience in the healthcare domain) and are able to tell their stories from within a rather unique and complex context (i.e. the healthcare ecosystem). It is therefore expected that their lived experiences of venture failure are different from other entrepreneurs and it is anticipated that these experiences, when interpreted properly and translated into improved support structures, could eventually contribute to more successful healthcare innovation. Put into the words of a participant of this research: “if my story helps other entrepreneurs to deal better with the unique challenges that exist in the healthcare industry, and more healthcare start-ups manage to survive, it is worth it”. I conclude by saying that caution should be observed regarding the latter and that practical relevance likely mainly consists of discussing the insights of this study between academics, practitioners (entrepreneurs) *and* policy makers.

#### **1.4. Objectives and Research Questions**

In accordance with the gaps identified in the extant literature and the intended contributions to academic knowledge as laid out above, the core aim of this work is to explore lived experiences of venture failure in the healthcare industry

from the perspective of the entrepreneurs involved. The research objectives are 1) to develop an understanding of lived experiences of venture failure among healthcare entrepreneurs in the EU whereby the focus is not on understanding causes of failure but rather on the impact failure has on individual entrepreneurs. (cf. Cope, 2011; Ucbasaran et al., 2013; Mueller and Shepherd, 2016); 2) to understand aftermath effects of venture failure as perceived by entrepreneurs in the healthcare sector; 3) to understand how lived experience of entrepreneurial failure in the healthcare sector might be distinctive from other industries and 4) to explore how cognitive mechanisms such as entrepreneurial optimism, play a role in individual-level lived experience of failure throughout the life-cycle of healthcare ventures, from the pre-venture to the post-failure stage.

The central research question is therefore:

**RQ1: 'How do healthcare entrepreneurs experience and make sense of failure of their ventures?'**

The central question contains two elements that define the research approach of this project, namely a phenomenological element (what is the essence of the experience?) and an interpretative element (how is this experience interpreted by research participants?). Further to this central question, two sub-questions are defined that are primarily meant to engage with relevant theory, help with exploring related topics that emerged from the literature review, and provide depth and structure to the central question. The sub-questions are:

**RQ1a: How does entrepreneurial optimism relate to the experience of venture failure?**

**RQ1b: How is the impact of failure conceptualised / perceived by healthcare entrepreneurs?**

### **1.5. Research Approach**

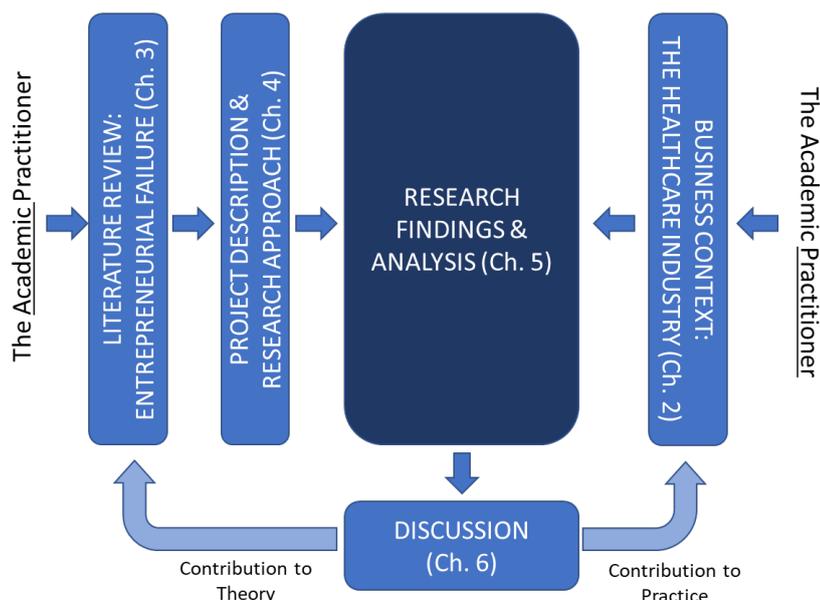
Interpretative Phenomenological Analysis (IPA) is employed in this research for several reasons. As “a contemporary qualitative research method grounded in phenomenology, hermeneutics and idiography” (Miller et al., 2018, p.240), it enables the researcher to analyse and interpret lived experiences of participants through the emergence of common themes and patterns. The focus on the meaning of events to participants shows IPA’s engagement with an idiographic level of analysis - thus a focus on the particular rather than the general (Smith et al., 2009). IPA is concerned with meaning and processes, rather than causes and explanations and this matches particularly well with the study’s focus on the holistic process of entrepreneurial failure and what it means to entrepreneurs. This study’s objective of understanding cognitive mechanisms among entrepreneurs and IPA’s particular psychological interest in how people make sense of their experience’ (Larkin and Thompson, 2012) are congruent. In line with the two key elements of IPA, this study gives voice, through in-depth interviews, to seven healthcare entrepreneurs who experienced failure of their venture in the EU healthcare industry and meaning is sought through interpretation of their accounts.

IPA allows the researcher to interpret participants’ interpretations (double hermeneutic, Smith et al., 2009). As I am not a detached researcher, but an academic practitioner who personally experienced venture failure in the healthcare industry, this allows me to move beyond the text and interpret participants’ experiences through insights derived from my own experience (Harper, 2012).

### **1.6. Structure of the Thesis**

The overall thesis structure is shown in Figure 1.1, depicting the integration of the dual academic and practitioner perspectives inherent in this DBA research.

Following this introductory chapter, Chapter 2 provides background information about the healthcare industry, the unique challenges it faces and how this is relevant to healthcare entrepreneurship. Chapter 2 sets the scene for the research and forms the link to practitioner relevance. Next, relevant academic literature is reviewed in Chapter 3 and aims to find out what is known about entrepreneurial failure. The focus is on entrepreneurship literature that addresses the consequences of failure on entrepreneurs' lives. In order to develop a holistic understanding of failure experience, it constitutes information about cognitive mechanisms among entrepreneurs, conceptualisation of venture failure, impacts of failure, coping and sensemaking and post-failure outcomes. Chapter 4 is about the research design and methodology used for this study and contains detailed information about IPA and its application to the research. The findings that emerged from the data are presented in Chapter 5, which is the core of this thesis, offering an interpretation of participants' stories and reporting common themes as well as an analysis that links findings and theory. Chapter 6 serves as the concluding section in which the findings set against research gaps and objectives are discussed, contributions to theory and practice are put forward, limitations of the study are indicated and opportunities for further research are suggested.



**Figure 1.1** – Schematic Overview of Thesis Structure

In summary, this thesis considers individual-level lived experiences of entrepreneurial failure (Chapters 3 and 5), applies IPA as its research approach (Ch. 4) and takes the EU healthcare industry as its research setting (Ch. 2). Insights developed through review of relevant literature (Ch. 3), combined with interpretations of real-life stories of entrepreneurs, are brought together in the analysis of findings (Ch. 5), with the intention to contribute to academic entrepreneurship theory and healthcare entrepreneurship practice (Ch. 6).

## **2. THE HEALTHCARE INDUSTRY**

### **2.1. Introduction**

This chapter describes the business context and the wider healthcare environment in which healthcare entrepreneurs operate. Both purposive and background information is provided about the healthcare ecosystem and the health technology sector forming part thereof. This environment is the backdrop of lived experiences of venture failure among healthcare entrepreneurs and entails particular challenges that are discussed in this chapter. Section 2.2. provides an introduction to the characteristics of the healthcare industry i.e. the distinctiveness of the sector, a comparison of EU health systems and a review of information on healthcare sector start-up survival rates. Section 2.3. provides a definition of healthcare technology, followed by 2.4. in which the importance of healthcare innovation is emphasised. In paragraph 2.5. the particular challenges for entrepreneurs in the healthcare industry are elaborated and finally, in section 2.6. some broad healthcare developments that will increasingly impact healthcare entrepreneurship are set forth.

### **2.2 Characteristics of the Healthcare Industry**

This section introduces the actors and factors of the European healthcare industry and provides arguments for why the sector is different from other industries, to what extent health systems across the EU can be considered homogeneous and what is known about healthcare venture failure rates.

### **2.2.1. Uniqueness of the Healthcare Sector**

The healthcare industry contains a variety of environmental and system dynamics that make ventures in this domain, whether successful or unsuccessful, of special interest to scholars and practitioners alike (McCleary et al., 2006). They state that “health care is quite different from other industries because of its organizational structure, service delivery and financing of health services” (p. 550). According to Elrod and Fortenberry (2017, p.35) “the healthcare industry is unlike any other industry in existence” due to its mission of providing the best possible health and medical services to those in need. Morrissey (2018) argues that healthcare is different from other industries because healthcare is ill-defined conceptually, the outcome of care is uncertain, the larger part of the sector is dominated by non-profit providers and payments are made by third parties such as governments and private insurers. The article by Morrissey in EconLib (2018, n.p.r.<sup>1</sup>) states that “many of these factors are present in other industries as well, but in no other industry are they *all* present. It is the interaction of these factors that tends to make health care unique”. Gee in his post on HealthWorksCollective (2016) indicates that stringent regulation is only the tip of the iceberg among other barriers for new businesses in the healthcare industry and concludes that “every industry has its quirks, health care is just quirkier than most” (Gee, 2016, n.p.r.<sup>2</sup>). Mcrae and Stuart (2019) argue that “caring for patients is radically different from making cars or flying aeroplanes” and that “healthcare is unique in the intimacy, complexity, and sensitivity of the services it provides as well as the trust, compassion, and empathy that underpin it” (2019, p.1). Mcrae and Stuart (2019), also emphasise the diversity of healthcare i.e. the sector is enormously varied and “is better understood as perhaps 20 different industries, many of which need to seamlessly interact at critical junctures throughout a patient’s journey” (2019, p.1.).

There is a huge industry around healthcare where business objectives prevail and consequently, market forces influence availability and accessibility of

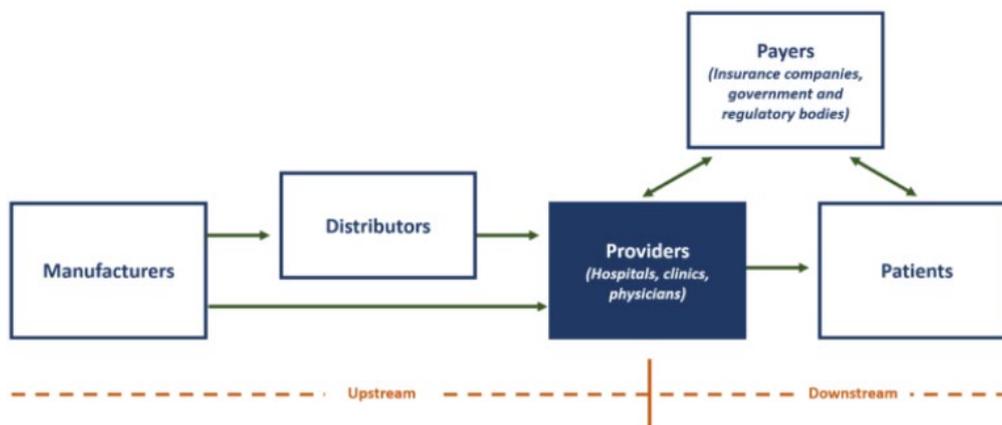
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<sup>1</sup> Internet source, no page reference

<sup>2</sup> Internet source, no page reference

medication and medical technology to a great extent (Rylko-Bauer and Farmer, 2002). In the EU, public health spending amounts for nearly 10% of GDP, even higher in some Western-European markets, and spending is generally on the rise (OECD, 2016; Eurostat, 2018). Further to the macro-economic importance, healthcare systems are also very important as a major employer across Europe. The healthcare industry, including both products and services, is very diverse and scattered, its two main sub-industries are pharmaceuticals and medical devices. The two together represent over EUR 330 billion in sales annually and employ approximately 1,5 million people (EC 2018b and 2018c). Healthcare systems and market forces together form the business environment that impacts healthcare entrepreneurship.

The healthcare industry, in all its forms, faces a dual challenge: on the one hand the invention and commercialisation of new medical technology and on the other hand assuring its long-term clinical adoption by clients (Burns, 2012). What makes the healthcare industry unique is the environment in which it operates. This environment, unlike most other industries, consists of many stakeholders, both public and private, who all have their own interests and motives (McCleary et al., 2006; Burns, 2012; Morrissey, 2018). This is illustrated by a simplified overview of the healthcare supply chain below.



**Figure 2.1 - The Healthcare Supply Chain (Phalange, 2017, n.p.r.<sup>3</sup>)**

<sup>3</sup> Internet source, no page reference

The three main groups of upstream stakeholders are manufacturers, providers and payers. Also, intermediary organisations such as insurers and distributors play a role. Payers can be either governments, employers or individuals. Providers are doctors, hospitals, pharmacies and other care service providers. Manufacturers are the suppliers of medical technology. The complexity mainly lies in the tension field between public spending by governments and commercial interests by suppliers of health technology. Furthermore, and this also contributes greatly to the unique position of the health-tech industry, there is often a direct or indirect impact on the quality of patients' lives. The latter means that the healthcare industry is highly regulated.

As this chapter intends to generate a better understanding of the environment in which healthcare entrepreneurs are active, it is important to explain briefly why it is difficult to be successful in the healthcare industry, especially because it could help understand the challenges of setting up a business in the healthcare industry, possibly it could explain some of the causes of business failure and above all, the consequences of failure on entrepreneurs who operate in this particular industry.

### **2.2.2. EU Health Systems**

The human right to healthcare (United Nations, 1948) means that hospitals, clinics, medicines, and doctors' services must be accessible, available and of good quality for everyone, on an equitable basis, where and when needed. Although "healthcare must be provided as a public good for all, financed publicly and equitably" (NESRI, 2018, n.p.r.<sup>4</sup>) the way this is interpreted and organised by national states, regions and health systems across the globe, differs greatly. Especially when it comes to availability and accessibility of healthcare services, there are systemic differences that generally mainly relate to the way healthcare is financed. Particular health system characteristics might impact healthcare entrepreneurship, e.g. how medical technology is assessed within local regulatory frameworks and how this is covered financially.

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<sup>4</sup> Internet source, no page reference

The health systems of EU Member States (including the UK at the time of data collection and analysis) are a crucial part of Europe's high levels of social protection and cohesion (EC, 2017a). The European Semester Thematic Factsheet on Health Systems (EC, 2017a, p.1) states that "health systems in the EU are varied and reflect different societal choices. Despite organisational and financial differences, they are built on the common values recognised by the Council of Health Ministers in 2006: universality, access to good quality care, equity and solidarity." The classification of health systems is complex and has evolved significantly over the last decade, taking into account health system reforms (Reibling et al., 2019). Both researchers and institutions have pursued the classification of health systems into homogeneous groups. Ferreira et al. (2018) show that there are many ways to do this in terms of the methods, factors and actors taken into account. Pereira Tavares (2017) provides an overview of European health system typologies over the last thirty years and also provides the most widely used definition of a health system, which is the one by the WHO, namely "a system of all organizations, people and actions whose primary intentions are to promote, restore or maintain health" (Pereira Tavares, p.57). This is obviously a very wide definition and underlines the vastness and complexity of health systems. However, according to Ferreira et al. (2018, p.1) "classifying European health systems is important for three reasons: first, it is a rational way to label what is complex; second, classification across health systems allows for international comparisons of not only their characteristics but also their performance; finally, health system classification enables policy assessments and recommendations to be made within each cluster."

Further to the classic OECD typology that dates back to 1987, consisting of the Beveridge model (in which the UK NHS is grounded), the Bismarck model (in which the German social insurance model is grounded) and private insurance (former US system), later on converted into the mixed model (Saltman and Figueras, 1997), some later classifications are widely used (Pereira Taveres, 2017). These are, amongst others, the ones provided by Wendt (2009) who presents a typology of health systems which simultaneously takes into account data on expenditures, financing, provision

and access to healthcare across fifteen European countries, using statistical cluster analysis, and the one by Böhm et al. (2013) who describe five types of OECD healthcare systems, distinguishing three core dimensions of the healthcare system: regulation, financing, and service provision, and three types of actors: state, societal, and private actors. Wendt (2009) emphasises that essentially, health systems can be distinguished according to their main source of funding and that the classic divide between SHI (Social Healthcare Insurance) and NHS (National Health System) still prevails, although the latter should be divided into early and late developed NHS countries. Wendt (2009, p.432) after applying cluster analysis to European health systems, constructed three types namely a) "*health service provision-oriented type* that is characterised by a high number of service providers and free access for patients to medical doctors; b) a *universal coverage – controlled access type* where healthcare provision has the status of a social citizenship right and equal access to healthcare is of higher importance than free access and freedom of choice; and c) a *low budget – restricted access type* where financial resources for healthcare are limited and patients' access to healthcare is restricted by high private out-of-pocket payments and the regulation that patients have to sign up on a general practitioner's list for a longer period of time." Böhm et al. (2013) performed empirical analysis of Wendt's (2009) typologies and revealed five distinct types of healthcare systems among the 30 OECD countries analysed, namely: the national health service, the national health insurance, the social health insurance, the etatist social health insurance and the private health system.

Reibling, Ariaans and Wendt (2019) integrate the comparative-institutional perspective of existing classifications (mainly drawing on Böhm et al., 2013) with ideas from the international health policy research debate and claim to provide a more comprehensive overview of modern health systems that generally have undergone significant reforms in the last decade. This offers an interesting perspective but still revolves very much around the organisation, funding and performance of healthcare. The countries that are relevant to this research (the Netherlands, Belgium, France, Germany, Denmark and the UK) are spread across the systems that are proposed by Reibling et al. (2019).

Belgium, France and Germany are clustered under the first system cluster whilst Denmark, the Netherlands and the UK are in the third cluster. The characteristics of each system cluster are presented in Table 2.1.

The first cluster consists of *supply- and choice-oriented public systems*, which are characterised by a medium to high level of human resources, primarily from public financing. Reibling et al. (2019, p.616) argue that “access to these resources is not strongly regulated, and citizens have free choice among providers. Specialists provide their service on a fee-for-service basis, which potentially also generates induced demand. At the same time, this system has the highest share of general practitioners compared with all other systems”. It might be of relevance to healthcare entrepreneurs that this type offers opportunities for increased focus on prevention and improvement of quality of care. Most countries from this cluster organise their healthcare based on social insurance (Reibling et al., 2019). The third cluster consists of *regulation-oriented public systems* which means that there is a medium level of resources that come primarily through public funding. The distinctive feature of this cluster is its reliance on public regulation. Reibling et al., (2019, p.616) state that “this type has the highest level of access regulation and also limits choice to providers.” The difference between these two system clusters (as can be seen in Table 2.1.) mainly lies in the way access is organised. More importantly, Reibling et al. (2019) conclude that there are no significant differences in terms of system performance of Western European clusters “which suggests that the hybridization of healthcare systems through the health policy reforms of the past three decades has in many ways fractured old institutional system logics” (p.618). A limitation of extant work (Wendt 2009; Böhm et al., 2013; Reibling et al., 2019) is that it does not specifically consider the use of information technology in health systems which would be of interest when studying healthcare IT entrepreneurs. Whilst acknowledging this limitation, it is not necessarily an issue but suggests it is an area that would warrant further study.

	Supply-and choice oriented public systems	Performance- and primary-care-oriented public systems	Regulation oriented public systems	Low-supply and low performance mixed systems	Supply- and performance-oriented private systems
	AU, AT, BE, CZ, DE, FR, IE, IS, LU, SI	FI, JA, KO, NO, NZ, PT, SE	CA, DK, ES, IT, NL, UK	EE, HU, PL, SK	CH, US
Supply (expenditures/ doctors)	medhigh/ high	medium/ medium	medium/ medium	low/ low	high/ medium
Public-private mix (public financing/private financing/ fee-for-service)	high/ medium/ FFS	high/ medhigh/ Salary	high/ medhigh/ Salary	medium/ high/ FFS	low/ medhigh/ FFS
Access regulations (access/ cost sharing/ choice)	low/ yes/no	medium/ yes/ yes	medium/ yes/ yes	maximum/ no/some	none/ yes/ yes
Primary care orientation (expenditures/ doctors)	low/ high	medium/ high	medium/ high	low/ low	high/ medium
Performance (tobacco consumption/alcohol consumption/system quality)	medium/ high/ medlow	low/ medium/ high	low/ medium/ high	high/ high/ low	medium/ medium/ high

**Table 2.1 - Overview of health system clusters and characteristics (adapted from Reibling et al., 2019, p.617)**

A comparative study conducted by Ferreira et al. (2018), confirms that the health systems that are relevant to this study, are largely homogeneous. Only Germany sits in Cluster 1 whilst all other markets are in Cluster 2 (Figure 2.2). This is not due to significant differences in the organisation and funding of healthcare but rather because of differences in socioeconomic factors such as GDP growth rates and unemployment rates at the time of analysis by Ferreira et al. (2018).

Cluster 1	Cluster 2	Cluster 3	Cluster 4	Cluster 5
Austria	Belgium	Cyprus	Bulgaria	Croatia
Germany	Denmark	Greece	Hungary	Czech R
	Finland	Italy	Latvia	Estonia
	France	Malta	Lithuania	Poland
	Ireland	Portugal	Slovakia	Slovenia
	Luxembourg	Spain	Romania	
	Netherlands			
	Sweden			
	UK			

**Figure 2.2 - European Health Systems Clusters (Ferreira et al., 2018, p.8)**

In sections 2.5. and 2.5.1. the complexity of health systems as one of the main challenges to healthcare entrepreneurs is considered.

### **2.2.3. Start-up Survival Rates in the Healthcare Sector**

The specific factors that shape the healthcare industry imply that it is difficult to establish a successful business in the healthcare sector. Despite the size of the market and a need for innovation (Gottlieb and Makower, 2013; Meindert et al., 2017), healthcare is still in the first phases of its transformation towards value-based, patient-centred care and adoption of integrated technologies (Porter and Lee, 2013; Roncarolo et al., 2017).

Many entrepreneurs face difficulties making a dent in that complex, multi-sided ecosystem in which patients, providers, physicians, insurance companies, government, regulators and investors collide. While technology is enabling the possibility of transforming healthcare for the benefit of all its stakeholders, patients above all, it is an entire ecosystem that needs to be redesigned (Goldberg, 2019; PwC, 2019).

As this thesis focuses on lived experiences of failure among healthcare entrepreneurs, it is helpful to provide a definition of entrepreneurship within the healthcare context. The assumption is that healthcare entrepreneurship is not

substantially different from entrepreneurship in other industries but, as seen above, healthcare is quite a unique sector due to its *raison d'être*, i.e. improving quality of life, and its complex multi-stakeholder environment. Based on work by Gartner (1990), Lumpkin and Dess (1996) and Davidsson (2004), entrepreneurship is defined as '*the introduction of a new economic activity, which is expected to be economically viable and which leads to a change in the marketplace when introduced*'. This linked to the definition of health technology provided in paragraph 2.3., allows for inclusion of a wide range of healthcare entrepreneurs in this research, varying from start-ups to entrepreneurial ventures by incumbents (Chatterji, 2009; Janssen and Moors, 2013). In the scope of this thesis research, healthcare entrepreneurship is considered as able to merge economic growth with efforts that have the potential to contribute to healthcare transformation.

In literature there do not seem to be comparative studies between entrepreneurship in healthcare and other industries although a limited number of studies on entrepreneurial strategies and performance in healthcare are available (Chatterji, 2009; Janssen and Moors, 2013). Also, the book by Burns (2012), besides providing a comprehensive overview of the various healthcare subsectors, sheds light on challenges for entrepreneurs and the peculiarities of pursuing commercial success in the healthcare industry.

Burns (2012) states that small firm survival rates in the healthcare industry are notoriously low but this is not specified nor substantiated. I therefore investigated healthcare start-up failure rates across three types of sources: 1) EU consolidated statistics, 2) national statistics agencies and 3) online industry articles by practitioners. First, Eurostat uses a classification of economic activities in the European Union: the statistical classification of economic activities in the European Community, abbreviated as NACE. In the Eurostat publication 'Business economy by sector - NACE Rev. 2' an overview of structural business statistics analysed per activity sector of the NACE Rev. 2 classification is presented (Eurostat, 2017). There are 13 industry and services categories but the healthcare sector is not one of these but is likely spread over the categories 'Information and communication services' and

'Professional, scientific and technical activities'. Eurostat provides enterprise survival rates (after 1, 3 and 5 years after enterprise birth) but these are only categorised in three broad categories, namely Services, Construction and Industry. It is indicated that across all 28 EU member states, just over 40% of enterprises still exist after 5 years (Eurostat, 2020). The authors (the CEO and the principal investigator) of the European Startup Monitor (EC, 2019) indicated that there are no data on failure rates in the healthcare industry. Second, national statistical data on venture survival rates by industry sector were reviewed. Data available in the Netherlands, Germany and the U.K. suggests a lack of data on venture failure in the healthcare industry. The Office for National Statistics (ONS, 2016) in the U.K. and the Central Bureau of Statistics (CBS, n.d.) of the Netherlands use the Standard Industrial Classification (SIC) for classifying types of economic activity. SIC has a category called Health & Welfare (SIC 2008 used by the CBS) and Human Health & Social Work Activities (SIC 2007 used by the ONS) but this category does not relate to the healthcare industry (i.e. suppliers of medical technology) but comprises hospital activities, dental activities and other healthcare service providers. This means that statistics on venture births and 5-year survival rates do not apply to the industry under study. Data from the Life Sciences & Health Programme in the Netherlands, a support platform for health-tech entrepreneurs funded by the Dutch Ministry of Economic Affairs, suggests that there are no reliable data on the total of venture failure rates in the healthcare industry. Rather, based on an analysis of ventures that took part in the LifeSciences@Work support programme, the survival rate, 10 years after incorporation, exceeds 50%. (LifeSciences@Work, 2018) However, it is indicated that many ventures, in particular the ones that emerge from academic research, never make it until the corporation stage. The ones that do, need intense guidance as offered by Health Holland. In Germany, there are no official statistics on venture survival rates in the healthcare industry either. The German Startup Monitor (Deutscher Startup Monitor, 2019) does not provide data on survival rates and only mentions that 60% of founders would establish another venture in case of failure (Deutscher Startup Monitor 2019). Third, there is widespread consensus that 90% of start-ups fail (Griffith, 2014; Patel, 2015; Kolosowska, 2017; Krommenhoek, 2018; Startup Genome,

2020; Cerdeira and Kotashev, 2020). It is generally assumed that this goes for start-ups in the healthcare industry as well, or even worse, namely a 98% failure rate, in the case of digital health start-ups (Becker Hospital Review, 2016). Above all, there is an abundance of online sources on the struggles of healthcare entrepreneurs and why it is harder to establish a successful business in the healthcare industry (Myler, 2016; Gee, 2016; Barad, 2019; Grand and Zavala, 2020).

In short, this chapter deals with the environment in which healthcare entrepreneurs operate and the industry-specific challenges they might encounter. Below, a definition of health technology, the contribution of the health-tech industry towards solving issues in healthcare through innovation, the main entrepreneurial challenges and some key industry developments are further discussed.

### **2.3. What is Health Technology?**

Whilst this thesis addresses healthcare entrepreneurship, the focus is particularly on commercialisation of health technology. Neither in literature nor in healthcare practice an unequivocal definition of health technology is available. Health technology consists of a broad range of application areas and varies from wound care plasters to very complex medical imaging systems (Burns, 2012). Since several definitions are being used, the demarcation of health technology is not always clear. The definition and its application in healthcare practice basically depends on the viewpoint of particular stakeholders. Quite often the official definition of medical devices as described in the Medical Devices Regulation (MDR) directive by the European Commission (EC, 2017b) is used, sometimes even with a local interpretation such as the 'Directive for Safe Application of Medical Technology in Medical Specialist Care' (NVZ-NFU, 2016) that has been widely adopted by hospitals and medical researchers in the Netherlands. The reason for the latter is that this directive provides clarity and is fully aligned with the latest EC policy and

regulation so that it is clear for stakeholders what the boundaries are in terms of risk, safety, etc.

The World Health Organization (2018, n.p.r.)<sup>5</sup> considers the definition of health technology as “the application of organized knowledge and skills in the form of medicines, medical devices, vaccines, procedures and systems developed to solve a health problem and improve quality of life.” From an industry perspective, MedTech Europe (2019, p.4) regards medical technology as “products, services or solutions used to save and improve people’s lives.”

It is therefore important to choose a definition that fits best with the research questions and objectives. As the research aims to obtain a rich understanding of experiences of business failure among health-tech entrepreneurs, the definition needs to be as broad as possible for two reasons: the first reason is that healthcare can potentially be improved by a vast array of new technologies or services and the scope should not be limited to, for instance, medical devices alone. The second reason is that it is simply hard to find entrepreneurs who are willing to talk about their experiences of failure and therefore I want to be able to have a potential sample group that is as large as possible.

Health technology is more than technology to save lives and is also much broader than the definitions of medical devices provided by the European Commission. The definition of health technology by the WHO is comprehensive but it still lacks some breadth. For instance, health technology also consists of additional fields such as prevention. As it is not entirely clear what is meant by ‘systems’ I explicitly include software in the definition as software in all its forms and applications will impact healthcare tremendously. In conclusion, the following definition of health technology is used for this thesis (adjusted WHO definition):

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<sup>5</sup> Internet source, no page reference

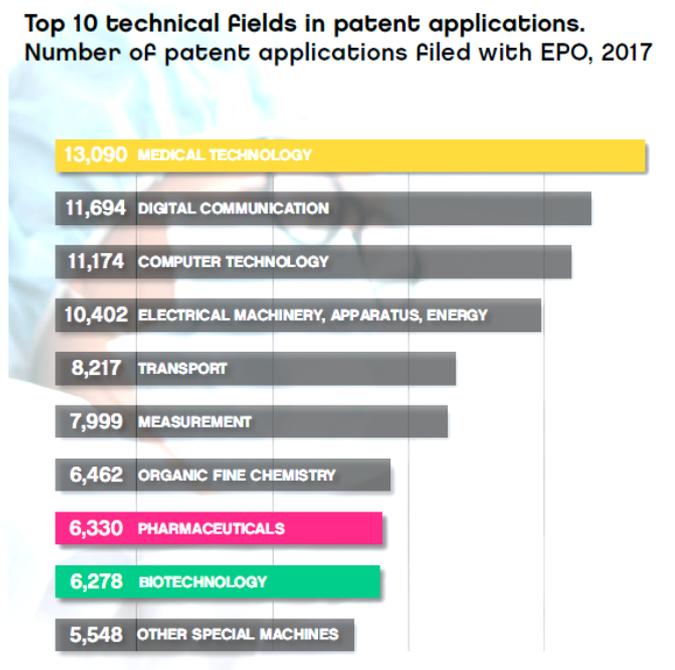
*'Health technology is the application of organised knowledge and skills in the form of medicines, medical devices, vaccines, procedures, software and systems developed to prevent and solve health problems and improve quality of life.'*

#### **2.4. Technology Innovation in Healthcare**

Healthcare systems are under huge pressure, face unprecedented challenges and therefore need a transformation towards more patient-centred, value-based delivery of care. Self-evidently, this should lead to less expensive, more efficient and more accessible healthcare whilst improving clinical outcomes and patient experiences. These forces are driving the need for innovation (Porter and Lee, 2013; Elrod and Fortenberry, 2017; Horgan et al., 2018). Most healthcare innovation has focused on developing better drugs, new therapies, procedures and medical equipment. While these advances are important and have contributed significantly to improving healthcare, the focus moving forward will also need to be on more disruptive innovation that concentrates on more personalised, patient-centred care and technology-enabled care models (Porter and Lee, 2013). This implies that, due to the sheer size and complexity of the healthcare industry as a whole, innovation will not only have to come from the health-tech industry (suppliers) but also from other healthcare sub-sectors, namely service providers (physicians and hospitals), health service buyers or payers (e.g. insurance companies), regulatory agencies as well as policy makers and governing bodies (Kim et al., 2016). This thesis however focuses on the health-tech industry i.e. entrepreneurs selling technology innovation to health service providers.

Technology innovation is largely provided by the health-tech industry and is an integral part of the wider healthcare ecosystem. Although there is debate about the extent to which new technologies contribute to lowering the costs of healthcare in the short-term, there is consensus that technology innovation contributes to lower costs in the long term (Fuchs and Sox Jr., 2001; Blank

and Van Hulst, 2009; Gottlieb and Makower, 2013). Besides cost reduction, “there is growing public recognition, based on scholarly evidence, that new technologies contribute to increases in longevity and mobility, reductions in disease and pain, improvements in worker productivity, and improvements in quality of life – especially for patients with particular conditions” (Burns, 2012, Chapter 6, p.4). The health-tech industry invests heavily in continuously improving technologies and introducing breakthrough innovations. In order to demonstrate this, MedTech Europe (2019, p.12) states that “in 2017, more than 13,000 patent applications were filed with the European Patent Office (EPO) in the field of medical technology – 7.9% of the total number of applications – more than any other sector in Europe. 40% of these patent applications were filed from European countries (EU28, Norway and Switzerland) and 60% from other countries, with the majority of applications filed from the US (37%). In comparison, 6,330 applications were filed in the pharmaceutical field and 6,278 in the field of biotechnology. While over the last decade the number of EPO filings in the field of medical technology has doubled, pharma and biotech patent applications were relatively stagnant.



**Figure 2.3 - Patent Applications Filed with EPO in 2017 (MedTech Europe 2019, p.13)**

## **2.5. Key Challenges for Entrepreneurs in the Healthcare Industry**

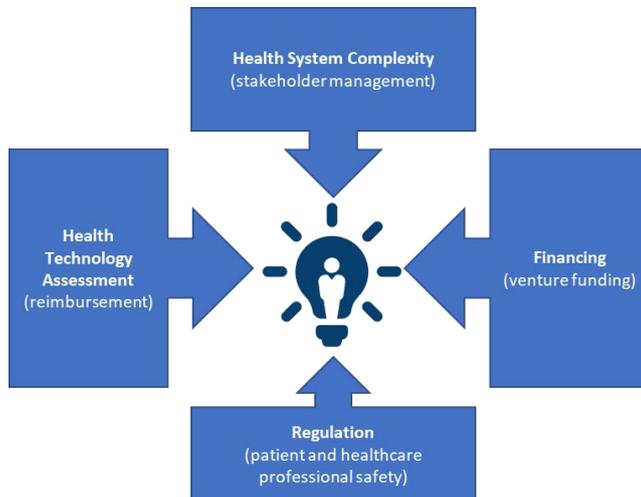
Before addressing the challenges and barriers encountered by healthcare entrepreneurs, it is important to mention that most healthcare ventures are micro- and small-sized businesses and can therefore be categorised as SMEs (Horgan et al., 2018). SMEs, particularly small and micro-sized businesses that have less than 50 employees and less than 10m turnover (EC, n.d.), are of paramount importance to innovation in healthcare (Burns, 2012; Gottlieb and Makower, 2013; Horgan, 2018). Medtech Europe (2019) states that 95% of all 27,000 medical technology companies in Europe are SMEs, the majority of which are small and micro-sized companies.

Horgan et al. (2018) state that SMEs play a major role in European healthcare innovation and discuss “the underlying factors that create challenges to SMEs trying to capitalise on opportunities in the healthcare sphere” (p.3). Horgan et al. (2018) find that despite the size of the European healthcare sector and the necessity of bringing innovation into healthcare, it is hard for SMEs and small entrepreneurs as part thereof, to survive and scale up. According to Horgan et al. (2018) this is largely due the fact that in Europe, delivery of healthcare is a national competence which makes it difficult for small healthcare ventures to grow, unlike the US where entrepreneurs can expand and scale-up within the boundaries of one single large homogeneous market. Horgan et al. (2018) indicate that despite increasing collaboration between European markets, health systems and regulatory bodies, there is a specific need for supporting healthcare SMEs in terms of financing, market authorisation and regulatory pathways.

It should be noted that, although start-ups are considered SMEs, there are some differences in terms of definition. By lack of a commonly agreed official definition the European Startup Monitor (EC, 2019 p.4) states that “the company has to be younger than ten years. It has to have an innovative product and/or service and/or business model. The startup has to aim to scale up (intention to grow the number of employees and/or turnover and/or markets in which they operate)”.

Typically, SMEs do not pursue business outside of their domestic markets. The European Commission’s Annual Report on European SMEs 2016/2017 (EC, 2017c) revealed that fewer than 5% of European SMEs conduct cross-border business in the EU. However, as stated by Horgan et al. (2018) healthcare is a unique area of innovation and healthcare SMEs generally need to be cross-border enterprises in order to obtain funding, find partners and reach the required scale. A difference between typical SMEs and start-ups might be the need and ambition for internationalisation. This research is about entrepreneurs who established innovative healthcare start-ups. The European Startup Monitor (EC, 2019) indicates that 76% of European start-ups plan to expand internationally within the next 12 months.

Below, the main challenges faced by entrepreneurs in the healthcare industry are elaborated. Literature suggests that these comprise the complexity of health systems, stringent regulation, health technology assessment (HTA) and financing. This is illustrated in Figure 2.4.



**Figure 2.4 – Main Challenges for Entrepreneurs in the Healthcare Industry**

### 2.5.1. Complexity of Health Systems

Burns, in his 2012 book ‘The Business of Healthcare Innovation’, provides a comprehensive overview of challenges and market forces in the healthcare industry. He states that the healthcare industry is “responsible for supplying a majority of the innovative products that are utilized by physicians and hospitals

and which are increasingly demanded by consumers. This supply and demand logic has exerted both positive and negative effects” (Chapter 6, p.3). This is a discussion about clinical benefits versus increased costs that come with new technology. What makes it complex, is that due to reduced budgets and increasing financial pressure on health systems, payers do not want to spend money on technology that does not have immediate, tangible benefits. This is only reinforced by insurers who operate within rigid financial budgets and, as commercial organisations, have clear profit objectives. What is unique about the healthcare industry, is that the organisations who buy (or reimburse) medical products and services, are usually not the ones who actually use the products or services in practice. Users are typically physicians, nurses, other healthcare professionals or sometimes patients themselves.

The traditional view is that healthcare service providers, healthcare professionals, strive to take care of patients i.e. increase survival rates, reduce surgery recovery times, enhance the quality of life of patients with chronic diseases, and improve longevity and preventative disease measures. These overarching goals need to be combined with managerial tasks aimed at cost reduction and process improvement practices (Porter, 2010; Kim et al., 2016). This all needs to be done for maximising value for patients (Porter and Lee, 2013) and innovation management plays an important role in this (Gottlieb and Makower, 2013; Phillips et al. 2017; Meindert et al., 2017).

Another factor that adds to the complexity of healthcare, is that many medical procedures, products, services and actors cannot be viewed as isolated elements, they rather form part of an ‘ecosystem’ made possible by an entire chain of both healthcare providers’ knowledge and resources as well as products and services of other suppliers. Kannampallil et al. (2011, p.943) state that “the specific nature of modern healthcare work renders it particularly amenable to functional decomposition, as work is distributed between actors (physicians, nurses, residents, and other clinical support staff) and artefacts (information technology, machines, paper notes)”. For example, treatment of vascular disease might connect surgeons, radiologists, general practitioners and other medical disciplines as well as suppliers of pharmaceutical products,

surgery devices, medical imaging equipment, IT solutions, etc. Entrepreneurs who aim to introduce new products, whether medication or devices, will need to think very carefully about the wider value chain and interdependencies with other medical disciplines and suppliers. This automatically implies that conflicts of interest might arise that could possibly slow down the introduction of ground-breaking technology. Phillips et al. (2017, p.44) identify “a need to embrace the complexity by adopting a variety of approaches that balance ‘credibility-seeking’ and ‘advantage-seeking’ behaviours, to navigate, negotiate, and nurture both the innovation and ecosystem, in addition to a combination of ‘analysis’ and ‘synthesis’ actions to manage aspects of integration.” This way value creation, and possible convergence between technologies, can be achieved through integration of innovation activities.

Finally, due to the complexity of healthcare service organisations and interference of its many stakeholders, including policy makers and insurers, purchasing decisions tend to be slow and bureaucratic (Burns, 2012).

### **2.5.2. Regulation**

Without elaborating on quality standards, categorised safety requirements and risk classifications, it goes without saying that most new or improved medical technology solutions are subject to stringent regulation. This is an important aspect of the context in which health technology entrepreneurs need to operate and creates both business opportunities as well as environmental constraints.

Regulation is a broad term and can be theorised upon extensively using various perspectives (Warren-Jones, 2017). She states that, in an interest-based perspective, basically, two types of direct interest relationships can be distinguished; the public relative to regulators and industry relative to regulators. Regulator is broadly interpreted as “bodies empowered by governments and supra-national organisations” (p.404). Warren-Jones discusses dynamics of these relationships and how these evolve, concluding that public trust in healthcare regulation is always a prerequisite.

Narrowed down to the purpose and context of this thesis research, I am mainly interested to what extent regulation might form an obstacle to commercialising medical products. More practice-oriented literature, focusing on the relationship between the health-tech industry and regulators, shows that over “the last decade, the industry has experienced increased regulatory oversight impacting how new products are trialled, approved, and ultimately marketed. More stringent regulation has increased the cost burden associated with new product development, slowed new product approvals and reduced new product velocity” (Kruger and Kruger, 2012, p.442).

Some examples of medical entrepreneurship and how regulation hinders breakthrough innovations to cure cancer, are provided by Diamond (2018) who breaks a lance for a new approach to medical innovation, “allowing cancer researchers to engage in trial-and-error experiments that follow up on serendipitous discoveries and plausible hunches” (p.1). He argues that regulatory protocols by the US Federal Food and Drug Administration (FDA) obstruct innovation towards curing cancer as it is based on a “precautionary principle,” which means that new innovations should not be allowed to be introduced until it has been shown that they cause no harm to patients. The latter is a necessary and noble principle but does not always accommodate for entrepreneurial initiatives and patients’ rights to self-determination (i.e. taking the risk of using promising therapies or products that have not reached formal release status yet, based on clinical trial procedures imposed by regulators).

FDA regulation also applies to a large extent to the European context, complemented by EC regulation, for instance the new EU Medical Device Regulation (MDR). The MDR, applicable since April 2017, imposes more stringent governance and certification procedures with the objective to safeguard compliance and traceability of medical devices (Meindert et al., 2017).

Stringent regulation also forms a heavy burden on companies in terms of time and resources that need to be allocated. This puts small companies and

entrepreneurs in a disadvantageous position compared to large multinational companies who have more financial power and resources to go through lengthy clinical trials and adhering to bureaucratic procedures associated with obtaining approval for market release. This is a factor of paramount importance considering that small and medium-sized companies (SMEs) make up almost 95% of the medical technology industry in Europe. The majority of these are small and micro-sized companies with less than 50 employees (EC, 2018a; MedTech Europe, 2019).

### **2.5.3. Health Technology Assessment (HTA)**

A field where health system complexity, decision making, reimbursement policies and regulatory aspects come together is health technology assessment (HTA). The World Health Organization (WHO, 2018) defines health technology assessment as “the systematic evaluation of properties, effects, and/or impacts of health technology. It is a multidisciplinary process to evaluate the social, economic, organisational and ethical issues of a health intervention or health technology. The main purpose of conducting an assessment is to inform a policy decision making.”

For entrepreneurs this means that they must comply with the requirements for assessment and reimbursement of healthcare interventions. As outlined by Bhattacharyya (2016), Erdös et al. (2019) and Kanavos et al. (2019), in Europe, there are differences between countries. Generally, two important decisions need to be taken. The first one is about making the products available to the market and deciding whether they are covered (i.e. reimbursed), the second one is about how to make the technology available (i.e. how to supply to healthcare service providers). Different from clinical trial and safety procedures and CE marking, HTA is a more holistic process and is usually taken at a country level, rather than at the European level. This is because financing and reimbursement policies differ between European countries. These usually reflect the different socio-political views and organisation of health systems existing in the country (Erdös et al. 2019; Kanavos et al., 2019). Bhattacharyya (2016, p.2) points out that “the countries in which a formal body has been established, the government usually

mandates them to carry out HTA as a part of policy making process. For example, in England, the National Institute for Health and Care Excellence (NICE) oversees Health Technology Assessments.” HTA is organised and implemented in a somewhat different way in each country. Countries such as Sweden, Spain and France, have an actual public agency for assessment of health technology (Banta et al., 1997). In others, such as the Netherlands, HTA is primarily implemented between policy makers, providers and insurers with a rather decisive role for the latter, meaning that insurers have the final say in budget decisions.

As indicated by Horgan et al. (2018) there is a need for policy improvement across member states that makes it easier for healthcare entrepreneurs to obtain market authorisation and reimbursement of innovative products across the EU. Only then, the EU can increase success rates and successful scaling up of innovative healthcare ventures. Erdös et al. (2019) and Kanavos et al. (2019) outline important improvements as a result of the European Network for Health Technology Assessment (EUnetHTA) that was released by the European Commission on January 31st, 2018 and aims at streamlining disparate national HTA processes. They argue that collaborative HTA across EU member states is a good step in the right direction and will improve the EU’s effectiveness in accelerating healthcare innovation. However, EU-wide HTA collaboration still needs to be more explicit and pragmatic about the definition of clinical value. The scope of the of EUnetHTA is limited to “assessment of technologies (i.e. the scientific consideration), while “appraisal” (i.e. the decision rule) remains a national competence (Kanavos et al., 2019, p.329). The latter means that healthcare entrepreneurs still must engage with each national reimbursement agency, which can be a daunting task for small businesses.

#### **2.5.4. Financing**

As commercialising a health-tech product is not as straightforward as products in most other industries, it is interesting to see whether this impacts funding of new ventures and/ or new medical technology solutions. The health-tech industry is characterised by high risk. Failure rates in the life sciences are

especially high, as are the failure rates of start-ups across the entire industry under study. Small firm survival rates are assumed to be notoriously low (Burns, 2012).

After all, once a product has been developed, which can already be a lengthy process, it remains to be seen whether regulatory approval can be obtained, whether the product will be reimbursed and once that all has been taken care of, whether the product will indeed be purchased following time-consuming and complex decision-making processes by healthcare providers (and payers/insurers). Furthermore, in many cases, intellectual property rights (IP) will have to be safeguarded, if it were only for being able to present a compelling business case to potential financiers.

Only partial, fragmented perspectives on financing in the health-tech industry are offered in extant literature: the focus is on large med-tech or pharma players that have the size and scale to fund new technology development or alternatively, buy up small ventures with promising ground-breaking technology (Kruger and Kruger, 2012) thus accelerating consolidation in the industry. On the other hand, it is argued that small firms account for much of the innovation across the sector (Burns, 2012) and that most probably, entrepreneurs and start-ups will bring break-through therapies to patients more often than the large life science companies and attention should be paid to supporting entrepreneurs in their endeavours to grant funding for their ventures (Mas and Hsueh, 2017). Another perspective is offered by Scanlon and Lieberman (2007) who suggest that the investment community needs to put a greater effort in understanding and supporting scientists/ entrepreneurs.

In any case, companies in this industry, require early success with the technologies they develop in order to survive. They also require heavy injections of capital from venture capitalists and the public (in the form of initial public offerings, or IPOs, secondary offerings, etc.) in order to sustain themselves through the innovation process. Burns (2012, Ch.6, p.23) indicates that “capital and time often interact in the form of “boom and bust” cycles in some of these sectors (e.g., biotechnology), as a sector goes in and out of

fashion with venture capitalists or as the window for IPOs periodically opens and closes.”

## **2.6. Relevant Healthcare Trends and Developments**

In response to the issues and challenges mentioned above, future-proof, financially sustainable health systems must be established where high-quality health services are equally available to all citizens. Several broad themes can be identified in the scattered scholarly literature as well as in periodicals and industry reports. In Deloitte’s Global Health Care Outlook 2018 it is nicely summarised as follows: “ With quality, outcomes, and value the watchwords for health care in the 21st century, sector stakeholders around the globe are looking for innovative, cost-effective ways to deliver patient-centered, technology enabled “smart” health care, both inside and outside hospital walls” (Deloitte 2018, p.3).

The three key themes outlined below (Table 2.2), are intertwined. For healthcare entrepreneurs these broad themes are relevant as introduction of new products and services is most successful if issues (e.g. cost, efficiency, availability) are resolved and if these fit with broader health system trends. The latter is important as the probability of entrepreneurial success (i.e. regulatory approval and market acceptance) typically increases when multiple stakeholders in the healthcare ecosystem embrace the new product or service (Burns, 2012) or in other words, when both public and private interests are met (Warren-Jones, 2017).

<b>Key Theme</b>	<b>Relevance to Healthcare Entrepreneurship</b>
<b>Integrated care</b>	<ul style="list-style-type: none"> <li>• The transition to patient-centred, value-driven healthcare cannot take place within the current infrastructural and organisational models in the EU. Stakeholders need to collaborate much more in order to achieve an ecosystem of integrated care, putting forth patients' needs across the full care cycle, whilst there is also a need for specialisation as it improves quality and increases productivity.</li> <li>• What is important to entrepreneurs, when assessing introduction of new products and services, is that these need to be both more integrated across the care cycle and brought closer to the communities where patients live. Integrated care means that prevention, primary care, acute care, ambulatory care and long-term care are organised around patients' needs. (Porter and Lee, 2013; Deloitte, 2018).</li> <li>• It requires sharing of information between care providers (hence integrated IT solutions) and finance models that embrace value-oriented healthcare rather than the traditional fee-for-service model (Porter and Lee, 2013). The latter is of increasing importance as HTA increasingly reviews integration and reimbursement models and thus determines success of new solutions.</li> </ul>
<b>Technology and digitalisation</b>	<ul style="list-style-type: none"> <li>• The growth of new technologies is on a fast track and is expected to change healthcare significantly. This opens up opportunities for entrepreneurs but might lead to additional entry barriers as well. Deloitte (2018, p.18) indicate that "exponential technologies are helping to drive that change by making care delivery less expensive, more efficient, and more accessible on a global basis".</li> <li>• Capio (2018) argues that healthcare is to be provided in a new and innovative way that is not necessarily based on the personal encounter between patient and healthcare professional and that "the use of digital solutions is increasing availability to patients, and the key to progress lies in the ability to develop working methods and flows for many patient groups". Digital solutions also increase opportunities to share necessary and relevant information across the full care cycle.</li> <li>• The implementation of digitalised (thus easier accessible healthcare) obviously require health systems to adapt their legal terms and finance models as conventional mechanisms might not work anymore. This has implications for solutions offered by healthcare ventures as they might face a further increase of the administrative and regulatory burden when attempting to bring new medical technology to the market.</li> </ul>
<b>New market entrants</b>	<ul style="list-style-type: none"> <li>• If in healthcare "the days of business as usual are over" (Porter and Lee, 2013, p.51) and transformation towards more value-based, patient-centred care is emerging at a rapid pace, this also implies that traditional stakeholders in healthcare are shaken up because patient centric health systems are opening the door to new, disruptive entrants.</li> <li>• Deloitte (2018, p.22) indicate that "agile competitors not hindered by established processes and systems may be able to detect and capitalize on technology-driven disruptors more quickly than incumbents." In an earlier report (2017) the Deloitte Center for Health Solutions predicts that new entrants will be disrupting healthcare. New entrants might be partnering with traditional providers.</li> <li>• Due to the underlying commercial interest, companies like Deloitte mainly provide insights that address interests of their clients i.e. large multinational corporations. What is not mentioned in many of these reports is that healthcare innovation largely comes from SMEs and start-up businesses (Burns, 2012; MedTech Europe 2019), whether partnering with incumbent players or not. The reason is probably that these smaller companies are no potential customers of Deloitte, and the likes.</li> <li>• Whereas the industry acknowledges the importance of new disruptive market entrants, the question is whether healthcare entrepreneurs are supported adequately and reap the benefits of this (Burns, 2012).</li> </ul>

**Table 2.2 – Broad Healthcare Trends Relevant to Entrepreneurship**

## **2.7. Summary**

The purpose of this chapter was to paint a picture of the healthcare industry, being the environment in which entrepreneurs operate, which cannot be done without providing information on the wider healthcare ecosystem. Below summary captures the main industry issues and entrepreneurial challenges.

Considering the main challenges and trends in EU healthcare, there is increasing pressure on healthcare systems due to reduction of public spending on the one hand and rising costs on the other hand. The latter can be explained by an increased need for healthcare due to demographic trends, an aging population and acceleration of chronic disease. Furthermore, there are inefficiencies in healthcare delivery and generally a lack of qualified staff. As a response to aforementioned pressures, various trends can be identified such as an increased focus on patient-centricity, a call for value-based care, more integration across the care continuum and decentralisation of specialist care. Technology and digitalisation are some important enablers of this transformation.

For the purpose of this thesis research, a definition of health-technology is adopted that is as broad as possible namely: 'Health technology is the application of organised knowledge and skills in the form of medicines, medical devices, vaccines, procedures, software and systems developed to prevent and solve health problems and improve quality of life.'

The health-tech industry contributes towards solving issues in healthcare by improving technologies and introducing breakthrough innovation that both improve clinical outcomes and help advance the transition towards patient-centred and value-based healthcare. Technology innovation contributes to lower costs in the long term and besides cost reduction, new technologies contribute to increases in longevity and mobility, reductions in disease and pain, improvements in worker productivity, and improvements in quality of life.

The health technology industry is different compared to other industries, simply because of its value chain that consists of many stakeholders with often conflicting interests. Healthcare providers are caught between a rock and a hard place. They are dependent on payers, mostly governments and insurers for financing provision of healthcare services. On the other hand, they depend on suppliers and distributors for obtaining products and services needed for medical procedures and for improving clinical outcomes, quality and efficiency. The complexity of healthcare systems naturally impacts the health-tech industry on their turn. In addition, the industry has to comply with very stringent safety and quality regulation. There are no significant differences among EU health systems and harmonisation is further increasing. Nevertheless entrepreneurs need to take into account that appraisal of health technologies remains a national competence.

Academic literature does not provide insights in whether entrepreneurship is harder in healthcare as compared to other industries. Start-up survival rates are assumed to be low, if not lower than in other industries, although there is a lack of reliable statistics, mainly because the healthcare sector is ill-defined. It is clear however that health-tech entrepreneurs have to deal with the complexity and ambiguity of health systems and are facing rather unique challenges. The main challenges for entrepreneurs are 1) health system complexity; 2) stringent regulation; 3) HTA and 4) financing.

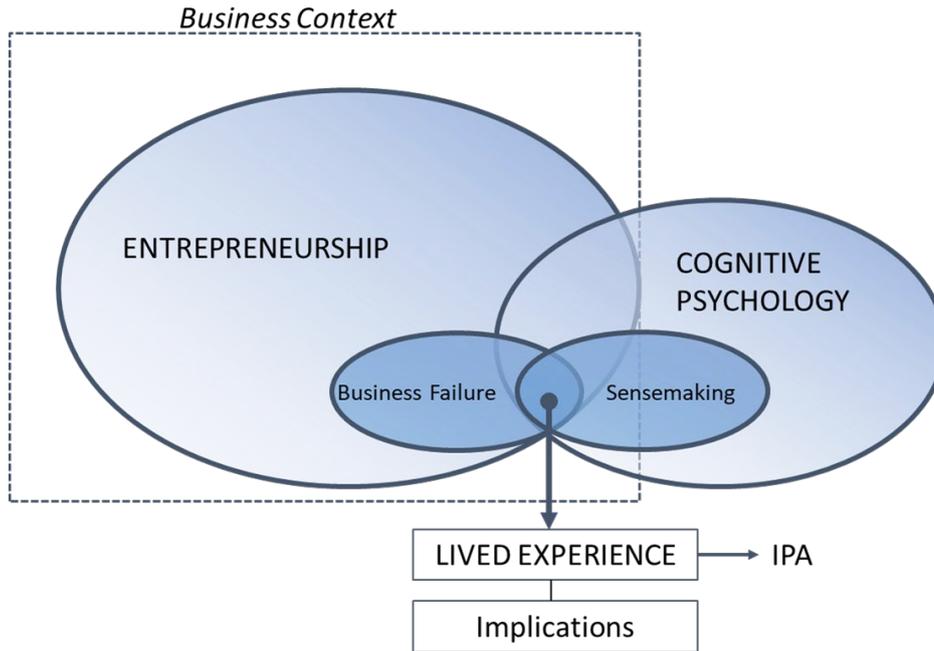
This chapter served as an introduction to healthcare and the healthcare industry and intends to provide background information that is helpful for understanding the environment in which health-tech entrepreneurs operate as well as the challenges inherent in this industry. In the next chapter, moving away from the specific business context of the healthcare industry and focusing more on academic than practitioner perspectives, a review of literature on entrepreneurship, entrepreneurial optimism, entrepreneurial failure and its effects on entrepreneurs is discussed.

## **3. ENTREPRENEURIAL FAILURE**

### **3.1. Introduction**

The central question in this study is how entrepreneurs in the healthcare sector experience failure of their business venture. Accordingly, the objective of this chapter is to examine what is known in scholarly literature about business failure in an entrepreneurial context as well as adjacent fields that might help to develop an understanding of factors that directly impact or relate to the experience of business failure. These adjacent fields relate to the sub-questions of this research as outlined in Chapter 1 and are primarily meant for engaging with theory about cognitive mechanisms such as pre- and early-stage entrepreneurial optimism, entrepreneurial decision making and post-failure sensemaking. Hence, the aim of this literature review is to locate the thesis within existing knowledge and debates, identify knowledge gaps or research problems, and thus create a point of departure for the research.

The research explores entrepreneurship in a significant business environment (i.e. the healthcare sector), with a particular focus on what is known about venture failure, and cognitive psychology with a particular focus on the intersection between cognitive mechanisms around starting a new venture (e.g. entrepreneurial optimism) and sensemaking upon business failure (Figure 3.1 below). Whilst Chapter 2 provides background information about the healthcare industry, this chapter investigates entrepreneurship, failure and cognitive mechanisms through a conceptual lens.



**Figure 3.1** – Schematic Overview of Literature Review

Entrepreneurial failure cannot be studied as an isolated field, it rather sits (or actually ‘moves’) in and between the fields of entrepreneurship and cognitive psychology that intersect naturally as entrepreneurship is a human activity and cognitive psychology is applicable to all fields that revolve around the how and why of human action (Shepherd et al. ,2016). This chapter basically consists of two parts: the first part is a review of existing research on entrepreneurship and cognitive mechanisms among entrepreneurs, that inform the holistic individual-level entrepreneurial experience from pre-venture to post-failure. The second part deals specifically with entrepreneurial failure and the conceptualisation of the consequences of failure for individual entrepreneurs i.e. aftermath effects, recovery from failure and longer-term outcomes.

### **3.2. The Field of Entrepreneurship Research**

This research fits in the field of entrepreneurship scholarship, a field that has developed rapidly over the last few decades. There is discussion about definition, the boundaries of the field and the question whether

entrepreneurship should be regarded as a distinctive field of research or rather as a subtopic in the traditional fields.

### **3.2.1. Entrepreneurship Theory**

In entrepreneurship theory, a field that “has emerged as one of the most vital, dynamic, and relevant in management, economics, regional science, and other social sciences” (Wiklund et al., 2011, p.1), and as a result has diverged widely, there is no clear-cut definition of entrepreneurship. On the contrary, a major theme in entrepreneurship literature is the inability of scholars to clearly define the entrepreneur and entrepreneurship, mainly because conceptual understanding is socially constructed (Smith, 2006). Entrepreneurship, as a socio-economic phenomenon, is anchored in various scholarly domains such as economics (Kirchoff, 1992), anthropology (Stewart, 1991), psychology (Kets De Vries, 1977) and sociology (Reynolds, 1991). These distinctive academic fields play a role in the emergence of entrepreneurship and influence how entrepreneurship is constructed (McCaffrey, 2018). The classic foundations of entrepreneurship were laid by early economists such as Cantillon, Turgot, Say and Schumpeter, invariably defining the entrepreneur by virtue of their actions (Bruyat and Julien, 2000). According to McCaffrey (2018, p. 191) “it is not a coincidence, that the term ‘entrepreneur’ was popularized by an economist, Jean-Baptiste Say (Hoselitz, 1960), or that Mark Casson’s (1982) classic book ‘The Entrepreneur’, which deeply influenced the founding of the modern discipline, is subtitled ‘An economic theory’ “. Considering the economic foundations of entrepreneurship and why these are still relevant today, McCaffrey (2018) taps into the theories of economists like Schumpeter, Knight and Kirzner who shaped entrepreneurship theory. Their approaches to entrepreneurship are “grounded in distinctly economic problems: Schumpeter (1934) sought to explain the riddle of growth in a general equilibrium context; Knight’s (1933 [1921]) theory is an answer to the question of the source of entrepreneurial profit; and Kirzner’s (1973) theory of alertness attempts to use ‘pure’ theory to explain market clearing and equilibration” (McCaffrey, 2018, p. 192). Even though entrepreneurship has changed significantly, these early theories contribute to the understanding and definition of entrepreneurship. According to Baumol (1993) Schumpeter

inspired interest in entrepreneurship as innovation. Foss and Klein (2012) argue that Knight called attention to the role of uncertainty in entrepreneurial decision-making and Shane and Venkataraman (2000) highlight Kirzner's influence on the definition of entrepreneurship as the study of opportunities.

As posited by Shepherd (2015), entrepreneurship must be open to new research questions, theories and methods, and "must be willing to shift its boundaries" (McCaffrey, 2018, p.191). Although entrepreneurship theory evolved from the work of economists, the impact on and interaction with other disciplines must be acknowledged in order to understand and advance the field. As argued by Weber (1990) the study of the creation of new economic activity cannot be regarded an abstract theory but rather requires a sociological approach that generates understanding from rich, empirical, emergent data and draws on the fields of sociology, history and psychology. Because entrepreneurship theory building traditionally revolves around the traits and actions of individual entrepreneurs (Smith, 2006), the entrepreneur's social environment (Bygrave and Minniti, 2000) and personal motivations (McCaffrey, 2018) play an important role. Among a myriad of schools of thought, Smith (2006) argues that entrepreneurship can be defined as the creation of value. Smith (2006) indicates that value is a subjective construct, in entrepreneurship usually seen as economic value, often expressed as value to the entrepreneur (financial success). However, entrepreneurial values such as bravery, vision, respect and generosity (Smilor, 2004) need to be considered as well when pursuing conceptual clarity (Smith, 2006). Entrepreneurial values should not be confused with traits (Smith, 2006) because they relate more to the moral identity of the entrepreneur and the deeper desire of contributing to society. The two aspects of value creation i.e. economic value and entrepreneurial values can lead to social disequilibria which is not intentional but is part and parcel of the process of value creation (Smith, 2006). The most famous proponent of this view was Schumpeter (1934) with his notion of the mysterious entrepreneur as a creative destructor, having disruptive impact on the environment. The common denominator of these two schools of thought, defining entrepreneurship as the creation of

value and as social disequilibria, is that they are attributed to the individual entrepreneur.

Some highly cited researchers (e.g. Gartner, 1988; Venkataraman 1997; Shane and Venkataraman, 2000; Low, 2001) argue that it is unwise to focus on the individual alone. Also, entrepreneurship does not necessarily comprise establishing a new business. Rather, focus should be on the (processes of) discovery, evaluation and exploitation of opportunities in combination with the individuals that are involved. As outlined by Wiklund et al. (2011, p.6), "intuitively, it is easier to study entrepreneurship in terms of the creation of new organizations (Gartner, 1988) than as the creation of new economic activity (Davidsson and Wiklund, 2001) or opportunity discovery and exploitation (Shane and Venkataraman, 2000) because organizations are more conducive to observation and measurement than are 'economic activity' and 'opportunity'."

Gartner (1985), presented a conceptual framework for describing the phenomenon of new venture creation integrating four major aspects in entrepreneurship: the characteristics of the individual(s) starting a new venture; the organisation they create; the environment that surrounds the new venture; and the process by which the new venture is created. In a later paper Gartner (1990) argues that entrepreneurial research is quite scattered and that there is a lack of an agreed definition over what entrepreneurship constitutes as a field of study. Low and MacMillan (1988) provide an overview of past research and challenges in entrepreneurial studies and suggest that contextual issues and identification of processes should play a key role in studying entrepreneurial behaviour. Morris et al. (1994) argue that there is a lack of definition and little coherence in theoretical perspectives on entrepreneurship. They present an integrative concept of entrepreneurship that includes the process perspective as well as the variable nature of entrepreneurship (i.e. intensity). They see the entrepreneurial process as an integrated series of inputs (environmental opportunities, entrepreneurial individual(s), organisational context, unique business concepts and resources) and outputs (a going venture, value creation, new products/ services, profit

and/or personal benefits, employment asset and revenue growth and failure/loss). The latter is relevant to this study as desired outcomes vary across firms and focus may vary between firms. Although failure is inevitably a potential outcome of any new business venture, Morris et al. do not elaborate nor explain how the risk of failure shapes the process of inputs nor how failure is anticipated or dealt with by entrepreneurs once it occurs. None of the studies mentioned above address how venture creation and failure are perceived by entrepreneurs.

Although the latter studies are still relevant today, many aspects of the entrepreneurial phenomenon have changed drastically since the 1980/90s, mainly due to digital technologies and easier access to information and capital. Successful start-ups are widely admired and research on entrepreneurship and start-up companies has exploded since the beginning of the 21st century (Meyer et al., 2014). It is therefore important to carefully select relevant theory for this study. As I wish to address the human aspect of entrepreneurship and start-up failure, I can still draw on some of the older theoretical frameworks but put into a contemporary context.

In conclusion, review of selected literature on the foundations and the emergence of entrepreneurship theory made clear that the entrepreneurial concept is nebulous. The multitude of scholarly fields and subjective viewpoints prevent unambiguous conceptual definition.

### **3.2.2. Stereotypical Representations of the Entrepreneur**

Since entrepreneurship theory typically revolves around the entrepreneur, whether directly or indirectly, it is helpful to look into social constructions of the entrepreneur (Smith, 2006). Schoonhoven and Romanelli (2009, p.225) indicate that Schumpeter (1934) already "focused attention on the entrepreneur as a critical actor in the formation of new industries and indeed the evolution of innovation and well-being in society". In literature, entrepreneurs have been portrayed as 'heroes' (Cole, 1959; Toffler, 1978; Casson, 1982; Reich, 1987; Hamilton, 2001) or even as 'stars' (Kirby, 2003). The stereotypical image of the male entrepreneur who is from humble origins

(Casson, 1982; Davis, 1987) and builds a successful business single-handedly is persistent, even in recent literature (McMullen, 2017). The conception of entrepreneurship as a mythical endeavour that revolves around the heroic actions of individual entrepreneurs not only stems from (early) entrepreneurship theory but also has to do with the way entrepreneurs have been portrayed in movies (McMullen, 2017) and the rise of modern celebrity entrepreneurs such as Bill Gates, Richard Branson and Elon Musk and how they are portrayed in the media (Boyle and Kelly, 2010; The Guardian, 2019).

According to Smilor (1996) not only the pursuit of opportunities but also entrepreneurs' ability to deal with setbacks is part of the entrepreneurial process. Casson (1982), drawing on Schumpeter (1934) suggests that one of the entrepreneurial motivating factors, next to pursuing the dream of building a highly successful company and the creative process of business creation, is the entrepreneur's commitment to conquer, fight and succeed. Literature suggests that entrepreneurs are able to create and build something from nothing and that overcoming obstacles is part of the process (Stevens, 1982; Timmons, 1989 and Smilor and Feeser, 1991). Entrepreneurial narratives that highlight the ability to cope with adversities thus reinforce the masculine heroic archetype (Stevens, 1982). According to Smith (2006) these heroic elements are eulogised and contribute to the construct of entrepreneurship which influences and shapes expectations of the entrepreneur. This is "why many academics imbue the entrepreneur with heroic status" (Smith, 2006, p. 196).

Although the entrepreneur still might be seen as the personal embodiment of capitalist success (Baumol, 1990), contemporary entrepreneurship is not comfortable anymore with the heroic portrait of the entrepreneur (McMullen, 2017). As Schoonhoven and Romanelli (2009, p. 226) state very explicitly, "the great-man perspective on entrepreneurship may be alluring" but entrepreneurship theory and practice "does not rest on the shoulders of a few larger-than-life entrepreneurial individuals" (p. 225). They posit that economic health, jobs, technological innovation and thus individual wealth and well-being in our society, depends on the toil of thousands of entrepreneurs "who embrace the substantial risks of founding new organizations and, through their

successes and failures, advance societies” (p. 226). Schoonhoven and Romanelli (2009) also emphasise that the myth of the “lonely only entrepreneur” (p.227) must be debunked and that focus on entrepreneurial failure is a way to do that. McMullen (2017) drawing on Granovetter (2000) also criticises the portrait of entrepreneurs as lone rangers who possess unique traits. McMullen (2017, p.258) argues that entrepreneurs “are embedded - like all individuals - within social structures that both enable and constrain their actions”. However, McMullen (2017) argues that it goes too far to neglect entrepreneurial success achieved by individual entrepreneurs. Rather, rewarding success and forgiving potential failure, can contribute to the perception of entrepreneurship as a heroic act.

### **3.2.3. Towards Phenomenon-based Entrepreneurship Research?**

Although the articles mentioned above only represent a very small selection of literature related to how entrepreneurship is defined, clearly, there is discussion about the definition and boundaries of the broad field of entrepreneurship scholarship. It is useful to briefly discuss how this thesis research could have a (modest) place in more recent discussions about the future direction of entrepreneurship research.

As seen above, historically, there has been a lot of attention for the individual entrepreneur and as many researchers defined the field “solely in terms of who the entrepreneur is and what he or she does” (Shane and Venkataraman, 2000, p.218) the definition of entrepreneurship has been incoherent and incomplete and this has prevented the creation of a conceptual framework for the field, which is needed for identifying the unique contribution of the field to, for instance, broader management science.

Another way to put this, is that there has been too much attention to one single aspect of the *setting* of entrepreneurship as Shane and Venkataraman (2000) call it, i.e. an all-pervading interest in small, young or owner-managed businesses (Wiklund et al., 2011) rather than researching what it is that makes these ventures so interesting. Wiklund et al. (2011, p.5) recommend that “entrepreneurship research be unified as a field approached theoretically and

empirically in terms of the *phenomenon*”, which implies that the phenomenon of “emergence of new economic activity” is placed at the centre of entrepreneurship. If the phenomenon entrepreneurship is placed at the heart of research, this offers opportunities for convergence within the scholarly field and makes interaction with other disciplines easier as well. This way, entrepreneurship research could pave its own way towards a more developed, more mature and distinctive field. Although this is certainly not a new perspective on entrepreneurship research (for instance Venkataraman (1997) and Low (2001) already argued that there is a mutual dependency between entrepreneurship belonging in existing disciplines versus entrepreneurship as a distinctive domain), it does help in creating a sustainable future for entrepreneurship research with its own community of dedicated researchers, theories and methodologies, and relevance to business practice. Also, it will be able to make sufficiently interesting contributions back to other disciplines. Finally, a potentially significant advantage of a phenomenon-based perspective is that by distilling what exactly it is that is entrepreneurial about the things we study, the boundaries of the field can be established (Wiklund et al., 2011).

Although this research focuses on business failure among individual health-tech entrepreneurs, it aims to touch the phenomenon of entrepreneurship, namely identifying opportunities, starting a new business initiative, obtaining resources and dealing with internal and external stakeholders (Kloepfer and Castrogiovanni, 2018), all within the context of the lived experience of venture failure. The focus of this research is very much on the phenomenon of business failure itself rather than theorising based on a multitude of seemingly relevant scholarly fields. It fits into the trend towards phenomenon-based entrepreneurship research in the sense that the research topic (entrepreneurial failure) in combination with the methodology applied (IPA), is incontrovertibly ‘at home’ in entrepreneurship research and arguably, could not easily be categorised under any other field of research. The literature reviewed for this chapter suggests that both the theoretical and practical relevance of this research are particularly applicable to the field of entrepreneurship.

As mentioned above, the field of entrepreneurship research, due to its rapid development, has diverged and perhaps, as a result, has lost sight of its common denominator, which is, the emergence of new economic activity (Wiklund et al., 2011; Davidsson, 2016) as it is experienced by entrepreneurs. Only through obtaining a deep understanding of these experiences, the phenomenon can be truly understood.

By embracing the various and scattered subfields that make up and inform the field of entrepreneurship and by emphasising the central role that context should have in entrepreneurship theory, Baker and Welter (2017) converge the arguments outlined above. The understanding of entrepreneurship can be improved if a richer perspective on contextualised motivations, goals and outcomes, whether positive or negative, can be established. This means that less attention should be paid to the economic functions of entrepreneurship and there should be an increased focus on the heterogeneity of entrepreneurs' motives and the circumstances (i.e. context) in which they operate. Contextual elements such as social structural patterns, determine unequal access to opportunities and resources (Baker and Welter, 2017). This implies that resource constraints and adversity cannot be regarded as the failure of entrepreneurs but rather "recursive links between entrepreneurs, their life course and contexts" (p. 178) should be taken into account. Baker and Welter (2017) also stress that less attention should be paid to a handful of rapid-growth "gazelles" (p. 172) and that "perhaps we need a new vision of entrepreneurial heroism as well" (p. 179).

Regarding the practical usefulness of entrepreneurial research, Baker and Welter (2017, p.170) argue that "too much of current entrepreneurship research is both of limited practical value for 'practitioners' and of little 'critical value' for scholars interested in how things might work better". By practical they mean research that is useful for entrepreneurs that work within particular contexts (rather than the generalised contexts assumed in entrepreneurship theory) and by critical they mean that academic assertions should be

challenged by insights that emerge from the subfields, thus improving the understanding of all entrepreneurship.

I believe that the practical applicability indeed is very important and should be a core attribute of any entrepreneurship study. Through this DBA research, I make a contribution towards understanding consequences of entrepreneurial failure by providing insights of lived experiences of failure by entrepreneurs in the healthcare industry, a context that shapes individual motives, opportunities and circumstances.

This research is positioned in the 'caverns' of the vast field of entrepreneurship. Its focus is on entrepreneurial failure, of which extant literature is reviewed in the next section, which is an underexposed subfield (Singh et al., 2007; Cope, 2011; Heinze, 2013; Corner et al., 2017). Furthermore, the specific context of the healthcare industry adds to the particularity of the study. Nonetheless, both theoretical insights and practical value can be derived from subfield studies and should be embraced in order to advance the field (Shepherd, 2015; Baker and Welter, 2017).

The focus of this study is on individual entrepreneurs who founded companies with the aim to introduce technological innovation to the healthcare market. Rather than considering entrepreneurship as an abstract concept, this research is about the lived experiences of small entrepreneurs who embraced substantial risks to start a new venture and aimed at advancing societies through their creativity and hard work (Romanelli and Schoonhoven, 2009). This includes economic, social, anthropological and psychological aspects of entrepreneurship. By lack of common definition (Smith, 2006), this study does not adopt theoretical preconceptions of what entrepreneurship entails nor attributes conventional traits to entrepreneurs, nor presumes generalised contexts (Baker and Welter, 2017). Rather, it embraces interpretations of individual lived experiences of venture failure in the healthcare industry as a way to improve the wider understanding of entrepreneurship and thus contributing to the social construct of the entrepreneur (Smith, 2006).

### **3.3. Cognitive Mechanisms in Entrepreneurship**

In his 2016 essay, Davidsson encourages increasing involvement of scholars who are trained in psychology, in the field of entrepreneurship research. He argues that the psychology discipline can strengthen the world of business school-based entrepreneurship research and that a focus on the individual level outcomes of entrepreneurial activity is recommendable as it is both interesting and useful to study “the psychological effects of engaging, succeeding, or failing in entrepreneurial activities and how such experiences affect, e.g. happiness, self-esteem, and health” (Davidsson, 2016, p.633). Knowledge of the field of psychology provides a distinctive advantage to contributing to multi-disciplinary and phenomenon-focused entrepreneurship research. It is useful to understand how entrepreneurs think, especially given the possibility that they think differently due to unusual contexts, challenges and motivations, compared to other decision-makers (Arend et al., 2016).

In the vast body of entrepreneurship research, there are many studies drawing on organisational theory, strategic management theory and other rather abstract constructs, occasionally blending in human, personal aspects of entrepreneurship (e.g. Gartner, Bird and Starr, 1992; Lumpkin and Dess, 1996), mainly drawing on behaviourist psychology. Although the behaviourist approach is interesting and at least addresses human aspects, it predominantly puts emphasis on observable external behaviours rather than the internal state of the mental processing of information (Lumpkin and Dess, 1996). The cognitive approach, conversely, revolves around the concept of *understanding* why people act in specific ways and thus requires that we understand the internal processes of how the mind works. Cognitive psychology emerged as a specialised branch of psychology involving the study of mental processes people use daily when thinking, perceiving, remembering, and learning (Deubel, 2003).

Without discussing it in-depth, obviously the two psychological branches are interrelated as both attempt to explain human behaviour. Also, the two approaches have hybridised, for example in cognitive behaviourism - which

takes the best of both theories - and social psychology- which looks at how our interactions with others shape our behaviour.

For this thesis study however, I try to 'look into the minds' of entrepreneurs in an attempt to obtain an understanding of their experiences. For this purpose, it is particularly interesting to review literature on mental processes among entrepreneurs. The way entrepreneurs think and take decisions, especially in the early stages of new venture creation, could explain later outcomes i.e. business success or failure.

Section 3.3.1. serves as an introduction to theory about cognitive mechanisms in entrepreneurs, i.e. heuristics and biases, among which optimism and overconfidence, and is intended to help investigate to what extent these cognitive processes, with a special interest in entrepreneurial (over)optimism, play a role in how entrepreneurs interpret failure, answering one of the sub-questions mentioned in Chapter 1, namely *"How does entrepreneurial optimism relate to the experience of venture failure?"* This section does not aim to critique existing literature nor to identify knowledge gaps, instead its purpose is to provide background information that might be helpful for later data analysis, or more specifically: it might help to make sense of participants' narratives on how they experienced the early stages of their venture and how this relates to their experiences of failure. Comparing pre-venture optimism to post-failure sensemaking might be an insightful way to understand the whole story, rather than just focusing on interpretation of experiences in a post-failure context.

Despite the developments in entrepreneurial cognition research, it still heavily draws on cognitive psychology. Therefore, as is the case with the wider field of entrepreneurship scholarship, there is debate about the distinctiveness of entrepreneurial cognition research (Mitchell et al., 2004) and the contribution towards new conceptual features (Grégoire et al., 2011).

### **3.3.1 Heuristics and Cognitive Biases among Entrepreneurs**

Entrepreneurs need to take bold decisions based on very limited information about the market, competitors and of course whether the new products or services will be of interest to potential customers. Baron (1998) argues that entrepreneurs often find themselves in situations that tend to maximise the potential impact of various heuristics. Simplifying heuristics often are useful for entrepreneurs in making decisions that exploit brief windows of opportunity (Tversky and Kahneman, 1974). Or, as put by Busenitz and Barney (1997, p.13): entrepreneurs "often have to make decisions where there are no historical trends, no previous levels of performance, and little if any specific market information. Just the decision to start a venture based on a new product or service involves making numerous decisions for which there is little or no hard information".

Below I provide a concise overview of broader theory on heuristics and biases, followed by a more extensive account of the cognitive mechanisms that, according to the literature reviewed, are most important or relevant among entrepreneurs and could play a role in entrepreneurial decision making in both a pre-venture and early-stage venture context as well as in a later post-failure setting.

Unfortunately, in literature, there is no clear definition of heuristics and biases nor consensus on the distinction between these. However, generally heuristics are regarded as cognitive 'shortcuts' or simplifying mechanisms that help in (shortening) the decision-making process. Tversky and Kahneman (1974) argue that heuristics are quite useful cognitive rules of thumb, but sometimes lead to severe and systematic errors or errors in prediction or estimation which they refer to as biases. This suggests that heuristics reflect mental processes or cognitive approaches, while biases are products or results of heuristics and are cognitive in nature.

Cossette (2015) put together an overview of lists and classifications of heuristics and cognitive biases (see Table 3.1). Furthermore, in his effort to provide an overview of past research on heuristics and biases among

entrepreneurs, he could only identify 17 (out of 26) empirical studies published since 2006, which seems very marginal and implies that, although there are many more theoretical papers on the subject, the field lacks an empirical perspective.

<b>Authors</b>	<b>Lists and Classifications</b>
<b>Tversky and Kahneman (1974)</b>	3 heuristics (representativeness, availability, and anchoring and adjustment) and 13 biases directly associated with them.
<b>Hogarth and Makridakis (1981)</b>	30 biases (not distinguished from heuristics), including selective perception, emotional stress, the law of small numbers, and attribution of success and failure. Presented according to the information processing stage at which they are likely to emerge.
<b>Schwenk (1984)</b>	11 cognitive simplification processes (expression used as a synonym of both bias and heuristic), including escalating commitment, single outcome calculation, and illusion of control. Presented according to the stage of the strategic decision-making process in which they might occur.
<b>Bazerman (1990)</b>	3 heuristics and 13 biases (different from those of Tversky and Kahneman), including the confirmation trap (tendency to seek out information that confirms our beliefs and ignore contrary information) and the hindsight bias (tendency, after the event, to overestimate our ability to predict what actually happened or, in other words, not to be 'surprised' by what happened).
<b>Manimala (1992)</b>	More than 600 entrepreneurial heuristics, subsequently reduced to 186 (grouped into 57 untitled categories), including 'be a pioneer in the choice of products', 'personnel first' and 'avoid direct competition with established firms.'
<b>Lebraty and Pastorelli-Negre (2004)</b>	17 biases (not distinguished from heuristics), including overconfidence. Not classified in any particular way.
<b>Shah and Oppenheimer (2008)</b>	42 different heuristics, some very general (e.g. representativeness), others very specific (e.g. price and brand heuristics).

**Table 3.1 – Main Listing and Classifications of Heuristics and Cognitive Biases, (adapted from Cossette, 2015)**

The above overview suggests that the various lists and classifications of heuristics and biases are quite distinctive and are used in a somewhat random manner. Also, the lack of distinction between heuristics and biases does not help in comparing and discussing the work from the authors mentioned. However, when looking a bit deeper, the work of Tversky and Kahneman (1974) can still be considered instrumental in the development of theory and application in management research. The distinction between heuristics and biases should be made, because heuristics, whether conscious or unconscious, are inevitable and necessary for survival in life in general, whereas biases are preventable, as long as we are conscious of them. On the

other hand, for scholarly research in the field of entrepreneurship, one might wonder whether this distinction is important as understanding cognitive mechanisms, whether called heuristics or biases, are helpful for understanding and interpreting entrepreneurs' experiences. As shown by Cossette (2015), there has been little empirical research on the heuristics of entrepreneurs whereas biases have received much more scholarly attention. Still, empirical research on cognitive mechanisms among entrepreneurs, in relation to the vast body of entrepreneurship research, is almost non-existent. Review of scholarly work about heuristics and biases among entrepreneurs, reveals the following:

By far, most focus has been on the optimism and overconfidence biases. Cossette (2015) found that 17 of the 26 empirical studies that he reviewed, focus, at least partly, on entrepreneurial optimism and overconfidence. For example, entrepreneurs, especially nascent entrepreneurs, tend to believe strongly in their own abilities and trust their instincts (e.g. Bryant, 2007; Moore, Oesch and Zietsma, 2007; Townsend, Busenitz and Arthurs, 2010), overestimate uniqueness and probability of success of new products and services while neglecting or underestimating market forces (e.g. Simon and Shrader, 2012). Furthermore, amongst other findings, other researchers stress the dangers of unrealistic optimism in entrepreneurial ecosystems, i.e. entrepreneurs' unrealistic optimism reinforced by policy makers and providers of credit (Coelho, 2012), the importance of overconfidence relative to others rather than overconfidence in entrepreneurs' own abilities (e.g. Coelho, 2012; Cain et al., 2015), and the potential of overconfidence to adversely affect firm performance, once ventures are established (e.g. Invernizzi et al., 2017).

Representativeness heuristics (introduced by Tversky and Kahneman in 1974), which is about probability assessment based on stereotypes or similarity-based judgement, rather than based on general (statistical) probability, can trigger the overconfidence bias (e.g. Wickham, 2003; Mehrabi and Collabi, 2012).

Other cognitive mechanisms have received far less attention in entrepreneurship literature. Cossette (2015, p.471) demonstrates that “biases to have received attention, albeit limited, are the law of small numbers, the illusion of control, the planning fallacy, escalation of commitment, the status quo bias, and the hindsight bias.”

Many biases are interrelated as essentially, they all have to do with either overestimation of positive outcomes, underestimation of risks and negative outcomes and often triggered by a firm belief in one’s own skills and competencies and the hard-headed belief that future events can be steered into the right direction as a result of this.

### **3.3.2. Entrepreneurial Overoptimism and Overconfidence**

Given the predominant role of overoptimism and overconfidence in the rather limited number of empirical studies on cognitive mechanisms among entrepreneurs, this section elaborates further on these concepts and 1) provides definition of these concepts as well as the significance for entrepreneurship and 2) indicates how these concepts could inform lived experience of entrepreneurial failure specifically. Being aware of (selected) theory on the cognitive biases of unrealistic optimism and overconfidence will be helpful in interpreting entrepreneurs’ experiences of failure during data collection and analysis.

#### **3.3.2.1. Definition and Significance**

First of all, as Cossette (2015) points out, overoptimism and overconfidence, are often wrongly used as interchangeable constructs, although they have different meanings. Overoptimism has to do with overestimating the probability of success or that certain predictions of future events will become true. Overconfidence, on the other hand, relates to self-esteem – it is about overestimating one’s own competencies. Unfortunately, in literature the two terms are used incorrectly and inconsistently. For instance, to illustrate wrong use of the term overconfidence, Invernizzi et al. (2017, p.710), write that “overconfidence is defined as a cognitive bias that overestimates the probability of a positive outcome to an event compared to the probability of

experiencing a negative outcome from the same event". This is clearly the definition of the optimism bias and not of overconfidence. Arguably, overconfidence might influence overoptimism, and authors like Invernizzi et al. draw on the work of other researchers (e.g. Busenitz and Barney, 1997, Ucbasaran et al., 2010), but the result is that the inconsistent use of these terms in literature can be confusing.

As Ng (2015) points out, optimism among entrepreneurs can be considered a permanent, stable personality trait and is not impacted by the entrepreneur's knowledge nor the business environment in which he acts (Busenitz and Barney 1997; Lowe and Ziedonis 2006; Trevelyan 2008) whereas overconfidence can be attributed to specific situations and contexts (Trevelyan 2008; Ng, 2015).

Optimism is normal and necessary to get through life (Sharot, 2011, Coelho, 2012). In human history, optimists have played a disproportionately big role in shaping and improving our modern society. Their decisions have often led to groundbreaking developments - they typically are the inventors, entrepreneurs, political and military leaders of our world (Kahneman, 2011). These optimists have been able to achieve great things by proactively looking for challenges and taking risks. However, very often, optimistic people underestimate risks and do not make every effort to assess risks. Because they do not anticipate risks adequately, they often believe that they are cautious, even if this is not the case. On the other hand, faith in future success and a positive attitude help optimistic entrepreneurs to obtain funding and resources for their venture, to persuade customers, motivate their staff and increase chances of market success (Ucbasaran et al., 2010; Von Bergen and Bressler, 2011). Entrepreneurs typically are more optimistic than employees and managers (Busenitz and Barney, 1997).

Infectious enthusiasm is essential for any entrepreneur but can lead to overconfidence, overoptimism and misinterpretation of essential information. Kahneman (2011), drawing on his earlier work, describes the dual-process model of the brain and provides examples where fast, intuitive thinking

'overrides' thoughtful, more analytic decision making. Entrepreneurs know that the a-priori chance of a successful business venture is extremely low, but they engage in business start-up anyway. They think that statistics might not apply to them and remain optimistic. This is not so strange, as entrepreneurs are strongly influenced by the economic paradigm of continuous growth and the alleged endless commercial opportunities that are associated with this. Entrepreneurs take decisions based on misleading optimism rather than making a rational assessment of profits, losses and probabilities of success. Also, the time needed for entrepreneurial tasks is typically underestimated, this is the planning fallacy as described by Tversky and Kahneman (1974) and Kahneman (2011) and relates to the optimism bias.

Desmond Ng (2015, p.950) argues that entrepreneurs' overconfidence "stems from a willingness to act under conditions of ambiguity" and that entrepreneurs will "choose only those estimates that they have the greatest degree of belief in". In other words: entrepreneurs create their own estimates of success (often based on limited information, cognitive biases among which overconfidence) but they are willing to act on that probability. For this reason, entrepreneurs do not tend to think (or at least not extensively) about potential business failure and usually do not plan for it. They tend to firmly believe in business success, which could be considered a prerequisite for daring to start a new business in the first place.

Another important element is group dynamics. When people set up a new business together, they somehow infect each other with their enthusiasm. They see themselves as part of a group and this impacts their behaviour and decision making. Katz (1993, p.98) indicates that "in practice, when individuals start acting in the organisational role of 'founder' or 'owner' they begin to take on new role expectations and behaviours consistent with involvement in social organisations". In other words: the individual entrepreneur adopts the optimism that is shared in the group of founders and acts accordingly. Once entrepreneurs do not see themselves as part of the group anymore (which could be the case when the business fails), this could impact peer relationships.

### **3.3.2.2. Relevance to Entrepreneurial Failure**

Further to definitions and broader significance discussed above, this section aims to capture the relevance of the optimism bias and overconfidence to entrepreneurial failure. For this purpose, I draw on Cossette's (2015) paper complemented by work of other authors such as Coelho (2012), Cain et al. (2015) and Kuntze and Matulich (2016). Below review of selected literature might shed a light on how overoptimism and overconfidence, particularly in the early stages of venture creation, could impact later sensemaking of failure by entrepreneurs.

Despite high probabilities of failure, entrepreneurs strongly believe in their chance of success. For example, Cooper, Woo and Dunkelberg (1988) found that 81 per cent of close to 3,000 entrepreneurs interviewed, believed that their chance of success was 70 percent or higher and 33 percent estimated their chance of success to be 100 percent.

In entrepreneurship literature, the main focus has been on factors of entrepreneurial success rather than understanding failure. Kuntze and Matulich (2016) discuss what contributes to business startup failure rather than success and indicate that cognitive biases, among which unrealistic optimism and overconfidence, play a major role. Von Bergen and Bressler (2011) state that excessive optimism can lead to business failure.

Kuntze and Matulich (2016) demonstrate that if the initial desire to start a business is high, this may lead to cognitive biases, in particular entrepreneurs' overestimation of feasibility of the new venture. This clouded judgement, or unrealistic optimism, can have a negative impact on the early stages of venture creation.

Marta Coelho (2012) argues that unrealistic optimism is a widespread bias, that is not only found among entrepreneurs but is adopted by the entire ecosystem, including policy makers and credit providers, thus only reinforcing its potential catastrophic consequences. She argues that potential entrepreneurs should be made aware of failure rates rather than success

rates, even though providing this sort of information to entrepreneurs might be futile as one of the key characteristics of the optimism bias is that important information is neglected. Still, it is recommendable as venture failure is generally bad for entrepreneurs, customers, suppliers, financial institutions and thus the economic system.

Shane (2009) argues that it is bad public policy to encourage more people to become entrepreneurs. This is due to poor judgement by entrepreneurs as to which industries and business propositions could be most successful. Unfortunately, entrepreneurs tend to pick industries that are easiest to enter (Shane, 2009; Cain et al., 2015), not the ones that are best for start-up. Or in other words, "rather than picking industries in which new companies are most successful, most entrepreneurs pick industries in which most start-ups fail." (Shane, 2009, p.143). Cain et al. (2015) mention that the underlying explanation for this may be that entrepreneurs tend to believe that they are better than others on easy tasks but worse than others on difficult tasks. Therefore, most entrepreneurs choose to compete in easy markets, while, for the most part, they would have been better off competing in difficult ones. Another explanation that adds to this, could be that they do this because they tend to embark on an entrepreneurial adventure based on self-belief and opportunism, rather than solid assessment and accurate forecast of future business performance (Fraser and Greene, 2006).

In literature the factors explaining overoptimism and overconfidence, such as age, education, experience, size of the firm and competitive environment are far from being consistent (Cf. Fraser and Greene, 2006; Ucbasaran et al., 2010; Invernizzi et al., 2017).

The literature on entrepreneurial optimism is helpful for this research because it provides background information that can be taken into consideration when collecting data through in-depth interviews and subsequent analysis and interpretation of the data. Clearly, cognitive mechanisms in the pre- and early venture stages play a role in how entrepreneurs might remember and interpret

their experiences of failure and for that reason alone, it is important to have some basic understanding of them.

### **3.4. Definition of Entrepreneurial Failure**

In the first part of this chapter the wider field of entrepreneurship and associated cognitive mechanisms among entrepreneurs were discussed. The following sections focus on the concept of entrepreneurial failure and the consequences of failure on entrepreneurs' lives. In this section, a definition of entrepreneurial failure is provided.

The definition of business failure ranges from narrow definitions such as financial bankruptcy to discontinuity of ownership due to insolvency and discontinuity due to poor performance (or at least performance below expectations). I would be inclined to go with the wider definitions as these are most relevant to my thesis research. In particular, the definition of Coelho and McClure (2005) makes sense as they consider a business to have failed when it has not survived the market test or in other words when revenues do not sufficiently exceed costs to make continuing the business attractive.

In the entrepreneurial context, failure refers to the "closure of an initiative to create value that has failed to meet its goals" (Mueller and Shepherd, 2014, p.461). Beaver and Jennings (1996) point out that the new business venture thereby fails to meet principal shareholder expectations: these often include the owner(s)/ managers of the small firm. Jennings and Beaver (1995) argue that running a small business is different from managing a larger company. This is because the backgrounds, beliefs and personal objectives of small business owners/ entrepreneurs are tightly intertwined with the company's objectives. They also argue that running a small new business is primarily an adaptive process in a fast-changing environment and decisions are taken based on limited information and on the highly personalised attitudes, involvement and judgement of small business owners/ entrepreneurs. Although the management style of small businesses and root causes for failure

can be linked to personalities, experience and beliefs of its owners, they do not address how entrepreneurs deal with business failure on a personal level. In this literature review I will not focus on the causes but rather on the lived experiences of failure.

For this reason, I use the conceptualisation from the perspective of individual entrepreneurs, drawing on an article by Jenkins and McKelvie (2016) who provide four conceptualisations of entrepreneurial failure, based on review of literature. They argue that in entrepreneurial failure research, erroneously, firm-level and individual-level analysis are used synonymously and show that either the firm or the individual should be taken as the unit of assessment and subsequently the criteria used to conceptualise failure are either objective or subjective in nature. Hence conceptualisations of entrepreneurial failure can be based on 1) objective firm level criteria (e.g. bankruptcy or insolvency), 2) subjective firm level criteria (e.g. poor firm performance where 'poor' can have various, subjective meanings), 3) objective individual-level criteria (e.g. expectations by entrepreneur not met) and 4) subjective individual-level criteria (i.e. personal failure).

However, in most independent ventures, it is difficult to disentangle an entrepreneur from the firm (Ucbasaran et al., 2013). After all, the entrepreneur is a key resource for the firm and quite often, entrepreneur and firm can hardly be regarded as separate entities of analysis. Thus, when conceptualising failure in this context, both firm- and individual-level criteria are relevant.

Nevertheless, I regard the objective and subjective individual-level criteria most relevant for this study, although I trend more toward the latter because it focuses on the personal effects that failure can have on entrepreneurs and hence, conceptualises failure based on its impact, as experienced by individual entrepreneurs. Thus, the personal impact of failure is the key benchmark for conceptualising failure (Jenkins and McKelvie, 2016). Taking an individual-level subjective notion of failure provides a greater understanding of how failure is interpreted by entrepreneurs, sheds a light on how it can affect them and provides a clearer picture of how they cope with failure. Jenkins and

McKelvie (2016, p.183) state that “a challenge associated with using personal failure to conceptualise entrepreneurial failure is that it is difficult to identify a relevant sample population as there are few datasets or publicly available information to capture what might be a relatively personal view on failure.” However, in line with the research questions and objectives, this study focuses on subjective individual-level failure. What this means to the conceptualisation of failure is discussed below.

### **3.5. Conceptualisations of Lived Experiences of Failure among Entrepreneurs**

In this section I investigate what is known about the lived experiences of failure among entrepreneurs. The study dictates the pursuit of understanding the essence of these experiences rather than theories about causes and associated factors. Although various authors, (e.g. Richardson et al.,1994; Cardon et al., 2011; Artinger and Powell, 2016) argue that the causes of failure play an instrumental role in understanding failure, there is such a wide array of causes, typically varying from difficult market conditions or other external factors, to errors made by entrepreneurs. (the latter often relates to overoptimism or other cognitive biases as described above). This makes it nearly impossible to conceptualise lived experiences of failure based on categorised causes. Furthermore, usually, causes of failure cannot be determined in an objective manner but rather depend on how entrepreneurs or their direct environment perceive them. This means that entrepreneurs’ narratives on (perceived) causes, when interpreted carefully, will likely reveal insights in causes and how these relate to aftermath effects and sensemaking by entrepreneurs.

Another reason why the research does not focus on categorised causes of failure prior to data collection, is that the investigation is about lived experiences of failure among *healthcare* entrepreneurs and the unique business environment in which these entrepreneurs act (see Chapter 2) might impact both causes of failure and effects of failure on individual entrepreneurs.

What I foresee, matching with the qualitative IPA methodology, is that themes, relating to both causes of failure and consequences for entrepreneurs, will emerge from analysis and interpretation of the data.

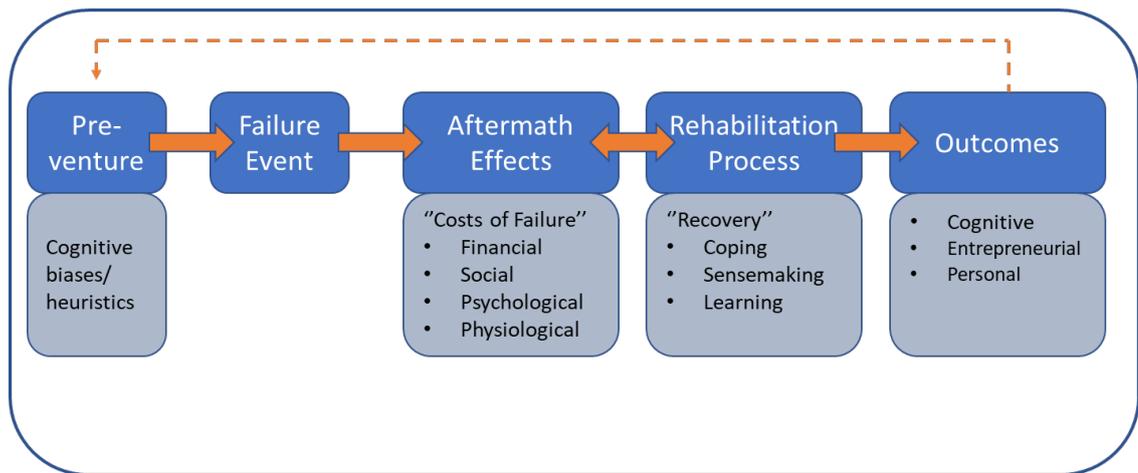
Entrepreneurship research predominantly focuses on success, thus ignoring high failure rates and precluding a holistic view on the entrepreneurial process (Singh et al., 2007; Heinze, 2013). By way of illustration, the application of best practice for conducting a systematic literature review as outlined by Short (2009) and adopting screening criteria provided by Ucbasaran et al. (2013, p.165), revealed that there are more than four times as many scholarly articles on entrepreneurial success than there are on failure.

Further to the above screening, I wanted to make sure that articles truly provide insights in the effects of failure on individual entrepreneurs and how they cope with and make sense of failure experiences, ideally through empirical research and in line with the research question, methodology and the definition of subjective individual-level entrepreneurial failure provided by Jenkins and McKelvie (2016). Finally, while reviewing selected articles, logically, I came across some other interesting and relevant articles that I had not found through my database search.

First of all, it became evident that there are very few articles addressing individual-level experiences of failure among entrepreneurs. It turned out that entrepreneurial failure, being already a very small research area compared to the field of entrepreneurship research as a whole – only has started to receive significant attention in the last 15 years (I did not restrict my literature search to a given period and found that the seminal work of Dean A. Shepherd (2003 and 2004) significantly helped developing this niche research area – before 2003 there was hardly any literature on the subject). When zooming in on articles that I deem relevant for my research, the number of empirical studies is even more limited – it seems as only a handful of recent (approximately from the last decade) articles can be used. For this reason, further to empirical, qualitative studies, I also include some articles that draw on conceptual/theoretical and quantitative approaches.

Most authors only focus on one single aspect of the consequences of failure, e.g. learning from failure, while my research question is much broader than that, i.e. how do entrepreneurs experience and make sense of venture failure. Nevertheless, a theoretical framework can be developed. Essentially, it consists of the various phases of the holistic individual-level experience of entrepreneurial failure, including pre-venture stages (the latter is my own interpretation, hence my attention to e.g. overconfidence and overoptimism as described above). As suggested by Cope (2011) and later adapted by Ucbasaran et al. (2013), there are three phases in the “failure continuum” (a term coined by Holmberg and Morgan, 2003), namely 1) “aftermath” effects of failure, which is concerned with the numerous costs of failure. 2) Second, recovering from failure, which is predominantly about coping, sensemaking and learning processes that facilitate rehabilitation and finally, 3) “re-emergence” that documents the distinctive forms and outcomes of learning from failure. These phases are slightly different than the ones described by Cope (2011) and Ucbasaran et al. (2013), for instance Cope (2011) indicates that the second phase is ‘recovery’ from failure while Ucbasaran et al. (2013) indicate that recovery is a potential outcome under the third phase. Thus, based on the former, I have created my own framework that captures the continuum of entrepreneurial failure, see Figure 3.2 below.

All these phases, including the pre-venture stage, are interrelated and together they could be considered an integrated framework of entrepreneurial failure. Figure 3.2. shows two types of interrelations between the phases, namely a sequential cause and effect relationship, e.g. between failure and the subsequent phases of aftermath, rehabilitation process and outcomes, as well as a mutual-dependent relation between the costs of failure and how entrepreneurs cope with this. The dotted line between outcomes and pre-venture, is to indicate that outcomes of failure might impact new entrepreneurial activity. Although the process of entrepreneurial failure in Figure 3.2. appears to be sequential, this is not necessarily the case. For instance, the coping process can begin immediately upon the event of failure and aftermath effects can be experienced both during and shortly after failure as well as over a prolonged period of time.



**Figure 3.2** – Continuum of Entrepreneurial Failure

Finally, to conclude this section, it is important to stress why I think it is important to investigate lived experiences of failure. Shepherd (2003) suggests that failure, as experienced by entrepreneurs is akin to a loved one's death and others describe it as traumatic, debilitating and stigmatising (Cope, 2011; Politis and Gabrielsson, 2009; Singh et al., 2015). In other words, potentially, failure might have devastating effects, not only on individual entrepreneurs (Shepherd, 2003, Singh et al., 2007) but also, consequently, on entire ecosystems that depend on fresh ideas and development and deployment of new technologies (Singh et al., 2007). This is especially the case for the healthcare ecosystem because, as explained in Chapter 2, it is under huge pressure and is unlikely to sustain without the support of new technologies.

In the studies that I reviewed, the phases of failure (Figure 3.2) are not always clearly distinguished. It is rather the contrary: in many cases they are very much intertwined, and definition and interrelations are not generally agreed upon. For the sake of providing a structured framework of lived experiences of failure among individual entrepreneurs, based on extant work, below I intend to provide an organised overview of the main characteristics of each phase.

### **3.6. Aftermath Effects**

Business failure is generally described as a very impactful, complex and often traumatic experience (Shepherd, 2003; Cope, 2011). In literature, the impact of failure on entrepreneurs' lives is either noted as 'aftermath effects' (e.g. Cope, 2011; Heinze, 2013) or 'costs of failure' (e.g. Ucbasaran et al., 2013). As mentioned earlier, the effects of business failure are reviewed from the entrepreneur's perspective rather than e.g. strategic or organisational perspectives. Furthermore, the focus is clearly on the consequences rather than causes of failure. This enables me to theorise and draw upon theories from both the fields of entrepreneurship and psychology (c.f. Ucbasaran et al., 2013; Heinze, 2013).

Themes related to aftermath effects can be categorised under aspects of life impacted by entrepreneurial failure, namely economic, social, psychological and physiological (Singh et al., 2007). Other studies have diverged from these aspects, have interpreted them in a different manner or have added other aspects. For instance, Cope (2011) replaces 'psychological' by 'emotional', Ucbasaran et al. (2013) mention 'inter-relationships' as a distinct aspect and leave out physiological aspects. Consequently, in order to structure findings of extant literature, thus providing a conceptual framework of 'costs of failure', I will hold on to the four notions of impact suggested by Singh et al. (2007), each elaborated with associated themes that emerged from various empirical studies.

The overview in Table 3.2. offers a concise yet insightful introduction to the main aspects of failure that impact entrepreneurs' lives. Most of these aspects are likely to be experienced during and immediately after the event of failure but can also affect entrepreneurs in the intermediate or long term.

<b>Impact (aftermath effect)</b>	<b>Associated Themes</b>	<b>Scholars</b>
<b>Financial / Economic</b>	<ul style="list-style-type: none"> <li>• Financial loss</li> <li>• Financial pressures / debts</li> <li>• Access to capital</li> </ul>	<ul style="list-style-type: none"> <li>• Cope (2011); Heinze (2013)</li> <li>• Singh et al. (2007); Cardon et al. (2011)</li> <li>• Cardon et al. (2011)</li> </ul>
<b>Social</b>	<ul style="list-style-type: none"> <li>• Distancing from family and friends / social isolation</li> <li>• Stigmatisation</li> <li>• Feelings of betrayal by others</li> </ul>	<ul style="list-style-type: none"> <li>• Singh et al. (2007); Cope (2011)</li> <li>• Cardon et al. (2011); Cope (2011); Singh et al. (2015)</li> <li>• Heinze (2013)</li> </ul>
<b>Psychological</b>	<ul style="list-style-type: none"> <li>• Grief</li> <li>• Stress / anxiety</li> <li>• Sadness / depression</li> <li>• Anger</li> <li>• Lower self-confidence</li> </ul>	<ul style="list-style-type: none"> <li>• Singh et al. (2007); Cope (2011); Heinze (2013); Jenkins et al. (2014); Byrne and Shepherd (2015); Corner et al. (2017)</li> <li>• Singh et al. (2007); Cope (2011); Heinze (2013); Corner et al. (2017)</li> <li>• Singh et al. (2007); Jenkins et al. (2014)</li> <li>• Singh et al. (2007); Jenkins et al. (2014)</li> <li>• Cardon et al. (2011); Heinze (2013)</li> </ul>
<b>Physiological</b>	<ul style="list-style-type: none"> <li>• Illness / health issues</li> <li>• Physical exhaustion</li> </ul>	<ul style="list-style-type: none"> <li>• Singh et al. (2007)</li> <li>• Cope (2011)</li> </ul>

**Table 3.2 – Aftermath Impacts and Associated Themes of Entrepreneurial Failure**

Below I briefly provide descriptions and insights of each main aftermath effect, drawing on a selection of empirical studies, most of them already referenced in Table 3.2., and where necessary supplemented by insights from other relevant papers.

### **3.6.1. Financial Impact**

Obviously, the financial impact of failure can be devastating but largely depends on the extent of personal financial commitment by the entrepreneur and whether a ‘soft landing’ can be established, e.g. through local bankruptcy laws that are more or less friendly to entrepreneurs by providing a safety net that could help to offset the immediate financial impact of failure (Calogirou et al., 2010; Ucbasaran et al., 2013). Regarding the personal financial involvement of the entrepreneur, Dew et al. (2009) argue that entrepreneurs sometimes invest only as much as they could afford to lose, thus deploying the ‘affordable loss principle’ provides the potential entrepreneur with not only the resolve to move forward but also the emotional backup required to quit

when the time comes, thereby protecting the entrepreneur from risky, irresponsible financial commitment. This would be a very rational approach to entrepreneurship and seems contradictory with theory on overconfidence and overoptimism, discussed earlier in this chapter (e.g. Ng, 2015).

Generally, even when the financial impact is relatively modest in relation to funds invested, financial losses are often experienced as all-determining (Heinze, 2013). Financial losses can be both direct and indirect. Direct financial losses can be e.g. unrecoverable investments, loss of assets and ascending venture debts (Singh et al., 2007; Cardon et al., 2011), but can also have a tremendous negative impact on the private financial situation of entrepreneurs, e.g. through loss of house, car and family savings (Heinze, 2013). Cope (2011) states that for some entrepreneurs, financial costs may take the form of personal debt that takes years to clear.

Indirect financial (or economic) impact is not to be underestimated either. After venture failure, usually, entrepreneurs are either left without any income at all or might be unemployed for quite some time and living on unemployment benefits (Singh et al., 2007). Another indirect effect of venture failure is that entrepreneurs lose access to capital, both for business and private purposes. Once an entrepreneur has experienced failure, it becomes more difficult to attract capital for new ventures as the ecosystem in which the entrepreneur operates is somehow not very forgiving and the settling of venture failure might prevent the relief of financial impact. Personal life might also be impacted as for instance, (former) entrepreneurs can't take out loans or mortgages anymore (Singh et al., 2007; Heinze, 2013).

### **3.6.2. Social Impact**

The social cost of failure is complex and multi-faceted. Failure can impact both personal and professional relationships. Singh et al. (2007) and Cope (2011) report that entrepreneurial activity, with all its uncertainties, and ultimately failure, puts relationships under pressure, even resulting in broken friendships and marriages. Also, the professional network of the failed entrepreneur is heavily impacted by failure. As setting up a new venture is a demanding

process in which entrepreneurs are working intensively with various stakeholders such as investors, advisors, peer entrepreneurs/owners, suppliers and customers, the impact of failure immediately puts a strain on entrepreneurs' professional relationships (Singh et al., 2007; Ucbasaran et al., 2013).

For understanding how failure can have such an impact on the entrepreneur's social environment, two factors are mentioned in the literature, namely: a) how does the entrepreneur see him- or herself after failure, and b) how does the social environment regard the entrepreneur after failure?

#### **a) Self-stigmatisation**

One of the themes that emerged from the work of Singh et al. (2007) is that the entrepreneur distances him- or herself from family and friends, hence it is not the social environment that breaks the ties with the (former) entrepreneur, but the entrepreneur who feels that his or her personal social environment might not understand the situation and therefore chooses not to share feelings and emotions. Cope (2011) indicates that this can lead to loneliness and social isolation. Feelings of shame and embarrassment often play a major role in the process towards social isolation. As argued by Heinze (2013, p.27), the entrepreneur's self or 'what matters to them' is what was driving them to start a venture in the first place. This drive and passion also link directly to entrepreneurs' sense of responsibility towards their social environment. Therefore, it seems inappropriate to concentrate exclusively on the failure event when trying to understand the aftermath effects of failure, rather entrepreneurs' intrinsic motivations need to be taken into account as well. Once the business fails, entrepreneurs generally feel that they let others down and this also impacts how they feel about themselves. Lower self-esteem and self-castigation are themes that are mentioned by several authors (Cope, 2011; Heinze, 2013; Singh et al., 2015) and can be brought under the common denominator 'self-stigmatisation'. This impacts both personal relationships and professional relationships, as entrepreneurs find it hard to accept they cannot deliver the results they had foreseen and, for instance, struggle with failing in their commitment to generate returns of investment (Cope, 2011).

In other cases, the entrepreneur feels let down by family and business relationships and therefore, out of anger or the feeling to have been betrayed (often by both personal and professional relationships), frustration builds up. Heinze (2013) argues that these feelings of frustration with others and of being betrayed by others, contribute to the social position of the failed entrepreneur. This is mainly because "entrepreneurs then consider that they can no longer put their trust in others in the same way they did before" (Heinze, 2013, p.30).

### **b) Social stigmatisation**

Next to social impact that can be related to the entrepreneur's personal choices of how to interact with the environment upon failure, the response of the direct environment can be even more impactful. Stigmatisation of entrepreneurial failure is receiving increasing interest of researchers and policy makers and can be described as a potentially painful and traumatic experience for entrepreneurs (Shepherd, 2003; Cope, 2011) that may deter subsequent venture start-ups (Politis and Gabrielsson, 2009).

Cardon et al. (2011) found that the stigma of failure was the most frequently cited impact. This is interesting, because Cardon et al. carried out an analysis of media sources, thus focusing on how the outside world looks at failed entrepreneurs.

Cope (2011), in his literature review, points out that societal stigma of failure might vary across geographies and cultures, i.e. in the U.S. venture failure is not seen as such a big problem and is mainly seen as a learning opportunity, while e.g. in the U.K. failure tends to have more of a negative impact on the entrepreneur's social standing and credibility.

Singh et al. (2015) suggest that "stigma is best viewed as a process that unfolds over time rather than a label" (p.150), that stigmatisation already starts when the entrepreneur anticipates failure (thus prior to the actual event of failure) and that generally, entrepreneurs are able to transform failure from a very negative to a positive life experience through learning. The paper of Singh

et al. (2015) is very relevant to this research as it particularly focuses on stigmatisation of venture failure from the perspective of individual entrepreneurs who experienced it. It shows the complex and ambiguous nature of stigmatisation by illustrating that self-stigmatisation and societal stigmatisation are interrelated. Entrepreneurs' behaviour and decisions are already impacted by self-castigation and lower self-esteem in the pre-failure phase of the venture. This then impacts entrepreneurs' expectations of how failure will be perceived by others and how entrepreneurs feel and act when failure actually occurs.

Singh et al. (2015) show that the entrepreneurs who participated in their qualitative study, experienced stigma as very painful but ultimately learned how to accept venture failure as part of a life journey. It also made the participating entrepreneurs realise that the impact of stigma on other entrepreneurs who risk failure, needs to be minimised, mainly because societal stigma is not helpful in coping with failure and potentially cuts off many options for new venture creation. Singh et al. (2015, p.159) mention that "entrepreneurs took actions to challenge the stigma of failure and shift others' thinking about failure".

### **3.6.3. Psychological Impact**

The psychological cost of failure is reported as the most impactful and emotionally draining aftermath effect (e.g. Cope, 2011; Heinze, 2013; Jenkins et al., 2014). Although the psychological aftermath of failure can be considered a multi-headed beast with many appearances, interrelations, dependencies, contradictions and ambiguities, generally, empirical studies focus on the negative emotions that are experienced by entrepreneurs during and after failure. Some negative emotions that have been associated with business failure include pain, remorse, shame, anger, guilt and blame as well as fear for what is coming next (Shepherd, 2003; Singh et al., 2007; Cardon, 2011). Shepherd, in his widely-cited 2003 article, drew parallels to the death of a loved one. Shepherd (2003, p.320) focused on grief as an overarching term characterising various negative emotions generated from losses associated with failure: "grief is a negative emotional response to the loss of a business

capable of triggering behavioral, experiential, and physiological symptoms.” Other authors addressing the impact of failure on entrepreneurs, also discuss the theme, often drawing on the work of Shepherd (2003 and 2004). Singh et al. (2007) who carried out five case studies among failed entrepreneurs, reported feelings of grief over the loss of business. In their study, “grief was accompanied with depression for two entrepreneurs while the other three entrepreneurs told of their anxiety, panic attacks, phobias, and anger” (Singh et al., 2007, p.335).

Cope (2011) demonstrates that the deeply affective dimension of failure is not only linked to the loss of the venture itself, but rather consists of complex interrelations between financial losses, relational losses and other interconnected spheres of the entrepreneur's life. A dimension added by Heinze (2013) is that entrepreneurs, logically, go through emotions of sadness and grief and clearly suffer from this, but are also concerned about how other people, particularly spouses or other loved ones, may suffer and grieve in the aftermath of failure.

Jenkins et al. (2014), drawing on appraisal theory by Lazarus and Folkman (1984) argue that the extent of grief experienced by individual entrepreneurs, depends on the level of stress that is experienced as a result of firm failure. In other words: some entrepreneurs might not appraise venture failure as stressful as others. Ucbasaran et al. (2013) underwrite this by pointing out that there are individual differences in psychological costs of failure among entrepreneurs. For example, entrepreneurs who previously owned a successful business, or serial entrepreneurs who spread their risk and thus their emotional involvement across multiple ventures, experience less grief. Obviously, individual responses to traumatic events, such as venture failure, are hard to extrapolate. Some quantitative researchers, e.g. Jenkins et al. (2014) found that there are many variables that impact the appraisal of stress and grief related effects, these are e.g. sex, age, previous start-up experience, prior failure experience, extent of financial loss, etc., and also whether participants could be considered either portfolio or hybrid entrepreneurs (the

latter have paid employment next to their entrepreneurial venture) impacts the severity of grief experienced.

Nevertheless, overall, it is reported that grief plays a major role in the experience of entrepreneurial failure and that it needs to be dealt with. Ucbasaran et al. (2013), argue that the psychological cost of failure, with grief as its main component, does not only cause severe emotional suffering and associated symptoms such as stress and even depression, it also impacts the entrepreneur's self-esteem, thus having adverse motivational aspects arising from feelings of helplessness and vulnerability. Hence, suppressing negative emotions associated with grief specifically, cannot be maintained over a longer period and therefore it is important that grief is acknowledged as an important element of the psychological cost of failure so that experiences can be used for coping with failure and do not obstruct learning from failure eventually (Corner et al., 2017).

#### **3.6.4. Physiological Impact**

The physiological effects of failure are mentioned as a separate aftermath category (Singh et al. (2007); Cope (2011); Ucbasaran et al. (2013)) but when looking into detailed articles it becomes clear quickly that among the entrepreneurs studied, e.g. by Singh et al. (2007) and Cope (2011), in addition to emotional symptoms related to grief, also physiological symptoms such as exhaustion, high blood pressure, insomnia, and weight loss occur. This only underlines the detrimental impact of business failure. Singh et al. (2007) even report the hospitalisation of an entrepreneur who collapsed when his business failed. Sometimes physiological effects, such as insomnia and exhaustion (Singh et al. 2007) are suffered for a long time, but generally these are related to anxiety about the future. Singh et al. (2007) argue that physiological effects due to business failure are similar to those reported by individuals experiencing other kinds of major loss, e.g. job loss or loss of a loved one (cf. Shepherd, (2003) and Folkman et al. (2004).

### **3.6.5. Interrelationships among Aftermath Effects**

Not only are physiological effects typically closely related to entrepreneurs' psychological health (e.g. stress and anxiety), also other aftermath effects are, inevitably, interrelated. As mentioned earlier, financial, social, psychological and physiological impacts are no isolated phenomena but rather emerge simultaneously as, evidently, in most cases they share the same root cause.

First, financial impact may have a psychological dimension (Ucbasaran et al., 2013). Because venture failure usually implies a financial loss, entrepreneurs might delay failure due to cognitive biases, usually against their better judgement, thus increasing cost of failure even more. On the other hand, delaying failure, even when it is financially unwise, might help entrepreneurs emotionally prepare for failure and thereby reduce the level of grief triggered by the failure event (Shepherd et al., 2009a).

Second, as indicated above, the social cost of failure can have financial implications. Even when financial loss is relatively small, due to stigmatisation, the entrepreneur's network and thus access to resources is impacted (Cope, 2011; Ucbasaran et al., 2013), preventing new entrepreneurial activity or at least making it very difficult for the failed entrepreneur to leverage his or her old network for financial support.

Finally, as indicated by Cope (2011), psychological effects of failure may cause complex social costs as well. Entrepreneur's dented self-confidence may lead to social isolation. Cope (2011, p.612) argues that extreme levels of anxiety and associated lowered self-esteem created by failure "are a reflection not only of physical strain but also the social isolation that entrepreneurs can experience as they feel unable to confide in others". It also works the other way around. Social regression and self-stigmatised detachment can lead to severe psychological symptoms of depression (Singh et al., 2007).

### **3.7. The Rehabilitation Process**

Returning to the various phases of the failure continuum (Figure 3.2), this section is about how entrepreneurs cope with the aftermath effects and make sense of venture failure. I adopt the view of Cope (2011) who indicates that 'recovery' takes place in the second phase and consists of sensemaking and learning (unlike Ucbasaran et al. (2013) who regard recovery as a potential outcome under the third phase). Corner et al. (2017) present an even more concise overview of entrepreneurial failure by discussing only the constructs of grief, coping and learning. Also, in Corner's et al. (2017) set up, coping, sensemaking and learning are intertwined and cannot be clearly distinguished. Therefore, I discuss the coping process, followed by sensemaking and learning, in the same section.

While the immediate and intermediate aftermath of failure can be characterised as a period of emotional instability and suffering, depending on the level of disruption to the entrepreneur's life (Corner et al., 2017), it is followed by processes of coping and sensemaking, that serve as necessary steps on the way to recovery from failure (Singh et al., 2007), or the process towards the phase in which entrepreneurs exhibit stable levels of functioning again (Corner et al., 2017).

#### **3.7.1. Coping Strategies**

In entrepreneurial failure literature, the terms coping and sensemaking are not clearly distinguished but are almost used randomly. However, coping is generally associated with managing the psychological costs of failure, thus mainly related to grief recovery (Ucbasaran et al., 2013), while sensemaking is a complex, interpretative process that is used to find meaning in the wake of failure (Cardon et al., 2011). Sensemaking is also more closely related to learning. It could be said that coping is necessary to deal with the immediate and intermediate consequences of failure on entrepreneurs' lives or as indicated by Leipold and Greve (2009): coping concerns short-term, constantly changing adjustment processes triggered by the perception of an adverse event. Thus, sensemaking and learning are then subsequent, more future-

oriented processes that involve both cognitive and emotional aspects of the failure experience (Cope, 2011; Cardon et al., 2011, Ucbasaran et al., 2013).

Singh et al. (2007) point out that entrepreneurs apply different strategies for coping with the four main aspects of life that are affected by venture failure (i.e. economic, social, psychological and physiological). These coping strategies (as originally described by Lazarus and Folkman, 1984) are either problem-focused or emotion-focused, depending on the failure impacts dealt with. According to Singh et al. (2007, p.334) "problem-focused coping is managing, or changing a problem causing distress while emotion-focused coping regulates emotional reactions to a problem". Therefore, entrepreneurs typically apply problem-focused coping, having a more pragmatic nature than emotion-focused coping, to economic and financial effects of failure whilst emotion-focused coping is applied to social and psychological aftermath effects. Examples from the entrepreneurs that participated in the study by Singh et al. (2007) are that assets were sold, or money was borrowed to release financial pressures (problem-focused) while coping with emotions seems far more difficult and examples do not get beyond seeking distraction (to release stress), venting anger or self-reflection with the objective to fight depression and despair (emotion-focused). What is remarkable however, is that Singh et al. (2007) indicate that participants had no coping strategies for frustration and grief. (see supporting quote provided by Singh et al. (2007, p.341: "I think it is grief and you have to go through all the screaming and wailing and crying and then you come out of it feeling like you dealt with it. I haven't dealt with it.")

Concerning the latter, when discussing coping with the consequences of venture failure, other authors elaborate on grief recovery (being a generic term for all negative emotions associated with failure experience). Shepherd (2003), drawing on the wider grief literature and applying insights to the context of entrepreneurial failure, identifies three grief-recovery strategies, namely loss orientation, restoration orientation and oscillation or transition orientation. Loss orientation means that entrepreneurs can get rid of any negative emotional response related to their failure experiences by emotionally

confronting the loss (i.e. revisiting, reflecting, sharing thoughts and emotions with others). This can be very helpful but can also slow down the recovery process. Restoration orientation on the other hand, is dealing with the loss in a more pragmatic and less emotionally confronting way. It can consist of avoiding negative emotions associated with loss by looking pro-actively for distraction. Although a restoration orientation is less emotionally draining, suppressing feelings and thoughts related to failure can obstruct longer-term recovery (Ucbasaran et al., 2013). Finally, an oscillation orientation means that the entrepreneur switches between loss orientation (confrontation) and restoration (avoidance) strategies of grief-recovery, thus benefiting from each approach while minimising the costs of maintaining one for too long. Later, Shepherd et al. (2009) indicate that entrepreneurs' emotional intelligence as well as that of the people closest to them, define which grief-recovery strategies are used for dealing with negative emotions in the best possible way. Heinze (2013) confirms that the entrepreneur's social environment, in particular the 'significant others', play a role in the process of coming to terms with venture failure.

When linking Shepherd's (2003) grief-recovery strategies to the coping strategies identified by Singh et al. (2007), it is noteworthy that parallels exist in the divide between pragmatic coping ('problem-focused' by Singh et al. (2007) and 'restoration orientation' by Shepherd (2003)) and emotional coping ('emotion-focused' by Singh et al. (2007) and 'loss orientation' by Shepherd (2009)). This seems logical as entrepreneurs must deal with both practical (e.g. financial) consequences of failure, as well as with the deeper, complex psychological and social effects of failure.

Congruent with Shepherd's and Singh's coping and recovery strategies, Cope (2011) argues that recovery from failure is a process composed of three interrelated phases. First, there is an initial hiatus (a purposeful break) during which the entrepreneur distances himself or herself from failure in order to heal (similar to Shepherd's restoration orientation). Subsequently, the entrepreneur tries to make sense of failure through conscious critical reflection (similar to Shepherd's loss orientation) and finally there is a period of reflective action

during which the entrepreneur moves on and prepares himself or herself for the future. Cope (2011) calls this final stage 'higher-order' restoration, which is different from 'lower-order' restoration comprising of distraction and suppression. The higher-order restoration is more future-oriented and is similar to the (integrated) processes of sensemaking and learning from failure.

### **3.7.2. Sensemaking**

Although the distinct phases of individual experiences of failure are not always clearly demarcated, in this section literature on sensemaking as part of the second phase of recovery from entrepreneurial failure (ref. Figure 3.2). is discussed. In entrepreneurial failure literature, the topics of sensemaking and learning are typically described as interdependent phenomena (Cardon et al., 2011; Cope, 2011; Heinze, 2013), being aware that sensemaking theory and learning theory are also well-developed, separate fields in the wider research community. In entrepreneurial literature however, sensemaking and learning are not necessarily separate nor sequential processes and are frequently used interchangeably. In my opinion, this demonstrates that the field of venture failure and entrepreneurial sensemaking is a complex research area and still in its infancy.

I attempt to shed a light on entrepreneurial sensemaking and learning in a failure context. I adopt the wider definition of sensemaking provided by Oxford Dictionaries (2019) namely: "the action or process of making sense of or giving meaning to something, especially new developments and experiences." Although business failure may be understood as something that has gone wrong, it is an equivocal outcome that is open to multiple interpretations and lends itself to sensemaking (Maitlis, 2005).

When entrepreneurs try to make sense of their failure experience, what they actually do is trying to understand how and why the venture failed and to what extent both the entrepreneur and the environment contributed to failure. Cardon et al. (2011) and Heinze (2013) refer to 'failure attributions' which are the mechanisms through which people explain their own behaviour, the actions of others, and events in the world (Cardon et al., (2011) referring to

Heider, 1958; Zacharakis et al., 1999). According to Cardon et al. (2011) the attributions to venture failure are culturally bound and either due to misfortune (i.e. external attributions beyond the control of the entrepreneur) or due to mistakes (i.e. internal attributions caused by entrepreneurs' avoidable errors). Shepherd (2003), Singh et al. (2007), Cope (2011), Heinze (2013) and Byrne and Shepherd (2015) argue that sensemaking is a process that requires individual entrepreneurs to assign meaning to failure and essential for future-oriented learning.

Sensemaking is an interpretative process in which people assign meaning to experiences (Weick, 1995). Weick did seminal work on sensemaking from an organisational theory perspective and describes the process of sensemaking including its properties, features and phases (Weick, 1995). It would be beyond the scope of this literature review to discuss this in detail but, perhaps, upon analysis of data, I will revisit Weick's theories. What is important to mention however, is that sensemaking is not a rational, unbiased process but rather an interpretative process that is fed by a person's pre-existing identity and perceptions (Weick, 1995). This means that one distinguishing feature of sensemaking is its emphasis on plausibility over accuracy. During the sensemaking process, people's recollections and perceptions of what happened might not be accurate and beliefs, perceptions and actions might evolve over time. These changes, that might occur throughout the process of sensemaking, can be considered learning (Weick et al., 2005).

Through the narratives of entrepreneurs of thirteen failed businesses in the U.K., Byrne and Shepherd (2015, p.376) aim to present "the emotional landscape of entrepreneurial failures and entrepreneurs' efforts to make sense of these failure experiences." They hereby focus on the real feelings, thoughts and behaviours of entrepreneurs. Key aspects are grief recovery and learning from failure. Rather than categorising findings in themes (cf. Singh et al., 2007; Cope, 2011), Byrne and Shepherd focus on emotions experienced by entrepreneurs and found that three emotional states emerged from entrepreneurs' narratives on business failure: a) low negative emotions and low positive emotions, b) high negative emotions and low positive emotions

and c) low negative emotions and high positive emotions. They suggest that mainly positive emotions play an important role in sensemaking of business failure. Entrepreneurs with long-lasting negative emotions struggle with sensemaking and learning whilst entrepreneurs with positive emotions (including positive emotions that emerged from initial negative or neutral emotions) feel better about their failed business ventures and feel they have learned from it and are now better equipped to take on new initiatives.

With regard to the latter, Mueller and Shepherd (2016) explore the relationship between failure experience and the ability to identify new business opportunities. Rather than focusing on the reasons for failure, they studied what impact entrepreneurial failure has on entrepreneurs and their future ventures or in other words: to what extent does the experience of business failure prompt learning: cognitive processes that help with the process of sensemaking, recovery and finally identification of new business opportunities? Mueller and Shepherd suggest a model where venture failure leads to the ability to better understand new business opportunities, also influenced by professional knowledge and cognitive style of the entrepreneur.

### **3.7.3. Learning from Failure**

While successes can increase confidence in entrepreneurs existing mental models (Sitkin, 1992), making sense of failure likely triggers a change in mental models. As failure clearly implies that something went wrong, entrepreneurs will put an effort in understanding what happened and are encouraged to engage in learning through self-reflection and postmortem analysis (Ucbasaran et al., 2013), and eventually in changing their mental models. Sitkin (1992) argues that experiencing failure is an essential prerequisite for learning since it provides the opportunity to pinpoint why failure has occurred.

Learning from failure is not likely to occur immediately or shortly after the failure event (Ucbasaran et al., 2013). Cope (2011) argues that entrepreneurs need time to recover from the pain and trauma caused by failure before they can engage in critical inward self-reflection.

Critical self-reflection is of paramount importance to learning but might be interfered by hindsight bias (a systematic distortion of the past, also see paragraph 3.2.1. of this chapter). Cassar and Craig (2009) demonstrate that what entrepreneurs believe they experienced might differ from what they actually experienced. Their recollections are distorted and therefore learning outcomes might be less valuable. This is not necessarily a problem, as long as entrepreneurs' insights evolve over time and biased memories are corrected as part of the learning process (Weick et al., 2005).

Shepherd (2003) indicates that entrepreneurs can learn from venture failure once they have developed an understanding about why their business failed (i.e. feedback). This information can be used to adjust their knowledge of how to effectively manage their own business. This knowledge, albeit not exhaustive, might relate to one's personal skills as an entrepreneur, manager or leader; problems around obtaining funds for the venture and managing investments properly; managing internal and external stakeholders (i.e. engaging with investors, peer entrepreneurs, suppliers and customers); managing the challenges of growth; and understanding the marketplace and competition (Shepherd, 2003; Singh et al., 2007; Cope, 2011). Cope (2011, p.615) distinguishes four superordinate learning categories, namely 1) "learning about oneself", 2) "learning about one's venture and its demise", 3) "learning about networks and relationships", and 4) "learning about venture management".

Several researchers have indicated that the extent to which entrepreneurs learn from failure, depends on various factors:

- i. The degree of financial losses, emotional hardship suffered and above all, diminished self-esteem, caused by venture failure, impact entrepreneurs' ability to rehabilitate, which in turn, significantly obstructs learning (Cope, 2011; Jenkins et al., 2014);
- ii. Entrepreneurs who have (or manage to develop) positive emotions toward failure, experience more constructive and profound learning,

while entrepreneurs who do not manage to cast off negative emotions are less likely to learn from failure experience (Byrne and Shepherd, 2015);

- iii. Previous successful entrepreneurial experience is strongly associated with a more positive attitude towards failure which is very helpful for experiential learning from failure (Politis and Gabrielsson, 2009; Cope, 2011);
- iv. Prior failure experience helps adopting a more positive attitude toward failure, e.g. failures give opportunity for reflection, learning and might improve outcomes in the long run, (Politis and Gabrielsson, 2009). Prior failure experience tempers high expectations (i.e. overoptimism) and consequently failure is seen more as a learning opportunity by entrepreneurs with prior failure experience (Ucbasaran et al., 2010; Jenkins et al., 2014);
- v. Entrepreneurs with metacognitive abilities learn better. Metacognitive abilities are defined as the cognitive capacity for sensemaking and the ability to understand one's own cognitive processes (Byrne and Shepherd, 2015).

That learning from failure is not easy (e.g. in case of negative emotions blocking learning ability), has also been demonstrated by authors in other research fields, e.g. Välikangas et al. (2009) discuss the case of Sun Microsystems where innovation failure caused innovation trauma due to insurmountable negative emotions experienced by the company's engineers and managers.

As mentioned earlier, learning theory is a complex and large research area on its own and it would go beyond the scope of this thesis to extensively discuss it. Nevertheless, further to (a selection of) factors that might obstruct or limit learning as shown above, I draw on general learning theory, i.e. single-loop and double-loop learning as distinguished by Argyris and Schön (1978) and the learning cycle by Kolb (1984), put into the context of learning from failure. Simply said, applied to the context of entrepreneurial failure, single-loop learning concerns corrective actions that enable the venture to move on, and

double-loop learning is learning on a higher level whereby the outcomes can be applied later (i.e. post-failure) and by both entrepreneurs and others (if learning outcomes are transferred). Drawing on the learning cycle by Kolb (1984), failure should always lead to new knowledge and insights. Whether these insights can be applied later or elsewhere, remains to be seen however.

Obstructive factors for single-loop learning can be (Iske, 2018):

- People do not want to admit that they are on the wrong track and therefore corrective actions are not taken;
- People do not want to admit that the project is failing or is about to fail. Disappointing results are camouflaged, or blame is put on other people or external factors;
- There is no time to take corrective actions and consequently the project fails, or suboptimal results are achieved;
- There is a lack of feedback from others.

Obstructing factors for double-loop learning are (Iske, 2018):

- After failure, there is no time for reflection and to make learnings explicit, transferable or applicable;
- There is lack of appreciation and motivation to invest in the construction and maintenance of knowledge that could be applied later or elsewhere;
- The *not invented here*-syndrome: knowledge that is obtained in a certain environment or setting, is not recognised or valued in another environment or setting;
- It is difficult to define learnings in such a way that they can be applied in a different context;
- Lack of infrastructure that is suitable for recording learnings or making them accessible.

In the next section I review entrepreneurship literature that addresses the link between learning and outcomes associated with business failure.

### **3.8. Post-failure Outcomes**

With reference to Figure 3.2., the final phase that can be identified in the conceptual framework of entrepreneurial failure, is the one related to outcomes of failure, or in other words: the longer-term effects of failure on entrepreneurs.

Review of literature suggests that entrepreneurial failure and the extent to which sensemaking and learning take place, result in three types of post-failure outcomes: cognitive, behavioural and entrepreneurial outcomes. In contrast to some entrepreneurship scholars (e.g. Cope, 2011 and Ucbasaran et al., 2013) I distinguish behavioural and entrepreneurial outcomes as entrepreneurs' behaviour after failure, is not necessarily related to new entrepreneurial activity (there might not be any).

As discussed above, literature shows that coping with the aftermath of failure, sensemaking and thus learning outcomes, depend on many variables (e.g. extent of costs of failure suffered; whether entrepreneurs manage to develop positive emotions regarding failure; and whether prior entrepreneurial experience or failure experience exists). Taking this into account and without the intention to provide a complete account of relevant literature, the following types of personal level outcomes are considered:

#### **3.8.1. Cognitive Outcomes**

It is interesting to compare pre-venture and post-failure cognitive mechanisms among entrepreneurs. As discussed in section 3.2.2. of this chapter, overconfidence and the optimism bias are by far the most dominant cognitive constructs in an entrepreneurial context (Cossette, 2015), hence I focus on these. With regard to (long) lasting outcomes of venture failure, overoptimism as a cognitive construct, probably plays a role in relation to entrepreneurs' appetite for starting new ventures while overconfidence, which is a personality trait rather than linked to a given failure event (Ng, 2015), relates to the entrepreneur's self-esteem and assessment of his or her own skills and competencies.

While (over)optimism might help entrepreneurs in bouncing back from failure (Hayward et al., 2010), it might also be a pitfall explaining the high failure rate of new ventures. Ucbasaran et al. (2010) indicate that optimism might diminish once entrepreneurs come to realise (e.g. through feedback by others or through self-reflection) that their initial optimism was unsubstantiated. However, the extent of overoptimism (called comparative optimism by Ucbasaran et al.) depends on the business context, for instance portfolio entrepreneurs' comparative optimism is less likely to be affected by failure than that of sequential or serial entrepreneurs. Ucbasaran et al. (2010) suggest that this probably has to do with the amount of emotional misery suffered, which is lower for portfolio entrepreneurs as they spread their emotional engagement and risks. At the same time, serial (or 'one-off' if no further entrepreneurial activity is undertaken) entrepreneurs are exposed to more risk and are generally more emotionally engaged, which can damage optimism on the long run when failure occurs. There is ample opportunity to investigate pre-venture vs. post-failure optimism, as review of literature hardly reveals any insights on the topic.

Finally, as seen above, one of the elements of the psychological cost of failure is subsided self-confidence among entrepreneurs. Although, in a pre-venture or early-stage context, entrepreneurs tend to believe firmly that their own skills and competencies will contribute to venture success (Ng, 2015), failure is likely to impact this belief and to diminish self-confidence and have an adverse motivational impact (Ucbasaran et al., 2013) over a prolonged period. It must be noted however that little empirical research exists specifically on overconfidence (or self-esteem) among entrepreneurs as a cognitive construct in a post-failure context.

### **3.8.2. Entrepreneurial Outcomes**

The key question here, is to which extent failure impacts initiatives for re-entry. Although various researchers indicate that failure is a valuable learning experience that builds resilience for re-entry (e.g. Cope, 2011; Jenkins et al. 2014; Byrne and Shepherd, 2015), this has not been tested empirically (Corner

et al., 2017). In literature, several aspects related to entrepreneurial outcomes of failure have been addressed:

*i. The impact of failure on entrepreneurs' desire and ability to start subsequent ventures.*

The outcome can be twofold: either entrepreneurs are impacted by failure so badly, that the appetite to start any new venture has completely vanished or they manage to overcome costs of failure, learn from the experience and re-embark on new entrepreneurial adventures. Review of literature shows that the latter has received most attention, while the former has hardly been researched, except for accounts of the (long-term) costs of failure such as financial costs, discussed by e.g. Singh et al. (2007), Cardon et al. (2011) and Cope (2011) who indicate that the financial impact of failure might be an insurmountable obstacle for new entrepreneurial initiatives. Various authors (Cardon et al., 2011 and Singh et al., 2015) also indicate that social stigmatisation may obstruct access to capital. Furthermore, long-term social costs (addressed by Singh et al. (2007), Cope (2011) and Heinze (2013) and long-term psychological costs (also related to cognitive outcomes, see above) are addressed in literature. However, more research on entrepreneurs who turn their backs on new venture activity (or perhaps on business life in general) after failure experience, would be very welcome.

*ii. The impact of failure experience on identification of new business opportunities by entrepreneurs.*

Congruent with research on coping with and learning from failure, the view emerges that a key element of entrepreneurship, is the process of trial and error and subsequent learning. Hence, this implies that failure experience is important for opportunity identification and exploitation (Alvarez and Barney, 2005). Ucbasaran et al. (2009), acknowledging that there is a lack of empirical evidence showing that ventures owned by entrepreneurs who failed previously, perform better, found that entrepreneurs who experienced business failure, identified more business opportunities in a given period than those with no such experience. This suggests that business failure experience may enhance entrepreneurs' propensity to identify opportunities. Mueller and

Shepherd (2016), using a quantitative research approach, demonstrate that failure experience can be beneficial for success in subsequent ventures (or at least in terms of identification of new opportunities). This only appears the case though, when entrepreneurs possess a “cognitive toolset that better enables entrepreneurs to learn from their failure experiences (at least in terms of the use of structural alignment processes in attempts to identify opportunities” (Mueller and Shepherd., p.476). As discussed above, the extent to which entrepreneurial failure provides a learning opportunity and thus leads to better identification of business opportunities, has not been empirically tested to my knowledge. As a result, also research findings discussed by Mueller and Shepherd (2016) remain debatable or as they state themselves: “Learning from failure is a complicated process operating in a complex environment” (p. 476) and only the extent of learning defines post-failure outcomes such as the ability to identify new business opportunities.”

*iii. The impact of failure experience on performance of new (subsequent) ventures.*

Should entrepreneurs overcome costs of failure and be able to identify new business opportunities, does failure experience contribute to performance of the new venture? Apart from the fact that hardly any empirical evidence can be found in literature (as stated by e.g. Ucbasaran et al., 2009 and Mueller et al., 2016), the field of entrepreneurship, often indirectly, makes references to the benefits of failure experience for undertaking new entrepreneurial activity, simply by the assumption (empirically demonstrated on a modest scale) that learnings can be applied to the new venture (e.g. Zacharakis et al., 1999; Politis and Gabrielsson, 2009). Measuring performance of the new venture is not very straightforward though, as performance can be measured through a variety of objective and subjective indicators (Ucbasaran et al., 2013). A way to find out would be a longitudinal study that follows entrepreneurs with prior failure experience who engage in a new venture. Measuring performance could be done by assessing financial performance or simply by checking whether the new venture still exists after predetermined time periods.

### **3.8.3. Private-Life Outcomes**

The experience of failure might have a long-term impact on (former) entrepreneurs' private lives, not related to business or (new) entrepreneurial activity. Especially when entrepreneurs do not fully recover from failure (e.g. Singh et al., 2007; Cope, 2011; Jenkins et al., 2014) or when stigmatisation (Singh et al., 2015) continues to take its toll and makes new venture activities impossible. Although a small number of authors clearly recognise that failure experience has a broad impact across many aspects of life, not necessarily limited to a professional setting (e.g. Singh et al., 2007; Cope, 2011; Heinze (2013), and that entrepreneurs' lives can be affected in the longer term, mainly in terms of psychological and social effects (i.e. relationships) of failure. Cope (2011) and Heinze (2013) indicate that specifically longer-term social outcomes are not necessarily negative due to learnings obtained through the failure experience, that can also be applied to non-professional contexts. Other than that, little is known about personal long-range effects.

### **3.9. Summary**

As mentioned in the introduction of this chapter, the purpose of this literature review has been to explore what is known about individual-level experience of entrepreneurial failure. I mainly reviewed literature that I deemed purposive and practically relevant, in line with the research questions, the IPA research methodology chosen and the nature of DBA research. I have tried to refrain from discussing abstract theoretical models from both entrepreneurship and adjacent fields because the insights obtained through this literature review are mainly meant for providing background information that will help me with data analysis and interpretation, rather than guiding the process of data collection.

What has become clear through review of literature is that entrepreneurship is a fast-emerging research field. Within the wider field of entrepreneurship, there is a relatively small amount of empirical studies on experiences by entrepreneurs, i.e. studying the phenomenon of entrepreneurship through the eyes of the people involved. The nature of entrepreneurship is opportunistic

which implies that entrepreneurs use cognitive mechanisms that help them with taking decisions under conditions of uncertainty. Entrepreneurial success seems the predominant paradigm within the field, as entrepreneurial failure has received far less attention in comparison. Despite high failure rates of new ventures, specifically in a pre-venture and early-stage context, entrepreneurs display high levels of overconfidence and unrealistic optimism. Entrepreneurial failure is a complex, potentially devastating experience that can be regarded as a holistic process during which entrepreneurs initially suffer from aftermath effects but generally rehabilitate through processes of coping, sensemaking and learning. Post-failure outcomes concern the longer-term effects of individual-level failure experience and affect (change of) of cognitive styles, engagement in new ventures and personal life.

The following research gaps and research opportunities could be identified through review of selected literature:

- As argued by Baker and Welter (2017), the field of entrepreneurship lacks practical value to practitioners and is of little value to scholars who are interested in obtaining a better understanding of how things work in practice. Hence, there is ample opportunity for researchers who let practical relevance prevail over making theoretical contributions;
- Congruent to the above, widely-cited entrepreneurship literature (e.g. Gartner, 1985; Morris et al., 1994; Shane and Venkataraman) does insufficiently address how the risk of failure shapes the entrepreneurial process nor to what extent failure is planned for by entrepreneurs. Hence, more attention to the experience of failure would contribute to a better, more holistic understanding of the entrepreneurial process;
- There is a lack of empirical studies on cognitive mechanisms among entrepreneurs (Cossette, 2015). Empirical studies on heuristics and biases, both in pre-venture and post-failure contexts, would be helpful for a better understanding and interpretation of entrepreneurs' experiences.
- The number of empirical studies on individual-level entrepreneurial failure is very limited. I only found a small number of relevant, recent studies (dated from approximately the last decade, e.g. Singh et al.,

2007; Cope, 2011; Heinze, 2013; Jenkins et al., 2014; Byrne et al., 2015; Corner et al., 2017). Furthermore, qualitative studies that provide rich, profound descriptions of failure experience by individual entrepreneurs, seem to be even more scarce (e.g. Cope, 2011; Heinze, 2013).

- Entrepreneurial failure experience linked to post-failure outcomes, is a field that is still in its infancy. Related to cognitive outcomes, there is ample opportunity to look into pre-venture vs. post-failure optimism and overconfidence, as there are barely any empirical studies on the topic. Also, entrepreneurial outcomes seem to be under-investigated. For instance, whether failure is truly a valuable learning experience that helps entrepreneurs with re-entry, has not been tested empirically (Corner et al., 2017). The same goes for entrepreneurs who might refrain from new venture activity as a result of previous failure and whether entrepreneurs who experienced failure perform better in their new ventures, deserves scholarly attention. Finally, little is known about personal long-range effects of failure.

In sum, through review of selected literature it has become evident that the number of empirical studies is rather limited and that there is a need for a deeper understanding through rich descriptions of actual venture failure experiences. Furthermore, literature that exclusively focuses on entrepreneurial failure in the healthcare sector seems to be non-existent. In other words: there appears to be a clear gap in understanding actual venture failure in the healthcare industry.

Hence, I think it is important to look into failed healthcare ventures as participants are expected to have different backgrounds than other entrepreneurs (e.g. either medical background or having long-time experience in the healthcare domain) and would be able to tell their stories within a rather unique and complex context (i.e. the healthcare ecosystem). It is therefore expected that their lived experiences of business failure are different than those of the 'average' entrepreneur. (being aware that an average entrepreneur does not exist).

## **4. RESEARCH DESIGN**

### **4.1. Introduction**

The aim of this chapter is to provide the reader with an insightful, purposive overview of the research philosophy and methodology applied in this research project, that aims to obtain a deep understanding of how healthcare entrepreneurs experience failure of their venture. Research considerations, choices and some hurdles that had to be overcome along the way, are discussed. This chapter first discusses the research philosophy in which the researcher's ontological and epistemological views play an important role. This is followed by an explanation of the research method i.e. interpretative phenomenological analysis (IPA) and includes participant selection, participant profiles, data collection, data analysis and a reflective section in which I briefly discuss my role as an academic practitioner. Finally, quality criteria and ethical considerations are discussed. While reflection on methodological challenges and limitations is interwoven in this chapter, a reflective approach is employed throughout the entire research.

### **4.2. Research Approach**

An exploratory, qualitative approach is most suitable for answering rather broad research questions (Hussey and Hussey, 1997; Singh et al., 2007) and is therefore suitable for answering the central research question of this research. As indicated by Ambert et al. (1995, p.880) "qualitative research seeks depth rather than breadth" and qualitative researchers aim to obtain in-depth and intimate information from a small group of people, rather than addressing a wider and larger representative sample of an entire population. Without dissociating qualitative methodology from its underlying

epistemological grounds, what prevails is the practical usefulness for researching unique lived experiences of individual entrepreneurs. Only through in-depth interviews and subsequent qualitative analysis that is aimed at discovering and interpreting themes and patterns, the research questions might be answered. As I strive to capture and understand subjective experiences of business failure among healthcare technology entrepreneurs, there is simply no way to collect and analyse data in an objective manner, let alone by any kind of quantitative measurement. As stated by Heyink and Tymstra (1993, p.293): “the qualitative method aims pre-eminently at clarification, interpretation and, to a certain degree, at explanation.”

An interpretative phenomenological approach to research was adopted in order to develop an understanding of venture failure experienced by entrepreneurs in the European healthcare sector. Phenomenology as a philosophical movement assumes that understanding of life can only emerge from people’s life experience and the phenomenological research method is well-suited for discovering the meaning of these lived experiences (Byrne, 2001).

#### **4.3. Research Philosophy**

For any scholarly study, it is necessary to understand the researcher’s epistemological and ontological position as it fundamentally influences the entire research process (Miles and Huberman, 1994). The researcher’s own beliefs and assumptions are directly linked to research philosophy and the research design and should therefore be reflected on explicitly (Saunders et al., 2009).

I am a subjective academic practitioner, rather than a detached, positivistic observer, which is why IPA, a qualitative approach with a particular interest in people’s lived experiences (Larkin and Thompson, 2012) seems a natural approach.

My philosophical assumptions constitute a subjectivist epistemology, which implies that I believe that knowledge can be derived from human experience, that good-quality data can be found in narratives and contributions to knowledge can be made through attributed meanings that are specific to individuals and contexts. In terms of my ontological stance, I do not believe that there is one real, objective reality but I rather subscribe to the subjectivist view that the nature of reality is nominal and decided by convention, and that the world that we can know is socially constructed, subject to individual perception and that there are therefore multiple realities.

Although seemingly underexposed in most studies using IPA, it is important that the researcher's philosophical stance matches the research methodology chosen, at least to a large extent. Of course, the research design must be commensurate with the research questions and objectives, but especially in the case of IPA, the researcher should also explicitly acknowledge his or her own philosophical view of the world. Although phenomenology is already a philosophical approach to the study of experience and implies a subjective ontology and epistemology (Smith et al., 2009), and the philosophical worldview of the researcher appears to be assumed along these lines, further to the broad personal philosophical views mentioned above, I note that my philosophical stance concurs most with Merleau-Ponty's phenomenological viewpoints i.e. his focus on human perception and how this impacts development of knowledge (Merleau-Ponty, 1962; Kwant, 1962). Rather than his concept of 'embodiment' in the world, I particularly underwrite the relevance of Merleau-Ponty's perception of the 'other' and link it to the context of this research project, namely that the researcher's relation to participants always starts from a position of difference because the researcher tries to obtain second-order knowledge derived from a first-order experiential base (Smith et al., 2009, discussing similarities between Husserl's and Merleau-Ponty's scientific views). In other words, and this is very much in line with IPA's viewpoints, researchers can only perceive other humans through the behaviour they display, e.g. grief or anger, and can only obtain knowledge through interpretation of participants' experiential knowledge. My interpretation of Merleau-Ponty's embodiment in the world is more on

interpretation through experience, feelings and reflection (by the researcher) rather than on the more physical-related human senses.

Stepping out of the hermeneutic phenomenological paradigm, I would like to mention that, as a researcher, I naturally feel 'at home' at interpretivism because its scope is specific and intensive, and it implies an ontology based on idealism rather than materialism and assumes an antifoundational epistemology. Within the rather wide spectrum of interpretivism, I trend most towards social constructionism as I believe that one's cultural background determines how we perceive the world and that meaning is generated collectively and shaped by conventions of language and other social processes (Denzin and Lincoln, 2000). At the same time, I struggle with the collective character of social constructionism and embrace the philosophical position of empiricism because it assumes experience to be the only source of information about the world (Rosen, 1994). Experience, and thus sensemaking through experience, in my view, can only be personal and unique. On the other hand, meaning-making of lived experiences (whether through the lens of participants or through the researcher's interpretations) is informed by (social) preconceptions.

#### **4.3.1. Philosophical Underpinnings of IPA**

The terms 'interpretative' and 'phenomenological' in IPA merit some explanation as they form the key conceptual touchstones of the experiential, qualitative research approach that was originally developed by Smith, Jarman and Osborn (1999) and is generally credited to Jonathan Smith (Smith et al., 1999, 2006, 2009; Smith, 2011, amongst other work) who drew on Martin Heidegger's (1962) hermeneutic (=interpretative) phenomenology. Biggerstaff and Thompson (2008, p.4) comment that "IPA's theoretical underpinnings stem from the phenomenology which originated with Husserl's attempts to construct a philosophical science of consciousness, with hermeneutics (the theory of interpretation), and with symbolic-interactionism, which posits that the meanings an individual ascribes to events are of central concern but are only accessible through an interpretative process".

Phenomenology is the philosophical study of 'Being' which means it is concerned with the study of existence and experience. Phenomenology has two important historical phases, namely Husserl's transcendental phenomenology which aims to identify the essential core structures of experience through a process of methodological 'reductions', i.e. identification and suspension of our assumptions (called 'bracketing') of culture, context, history, etc., in order to get to the universal essence of a given phenomenon (Larkin and Thompson, 2012). Application of these ideas can be found in the more descriptive (as opposed to interpretative) forms of phenomenological psychology (Giorgi and Giorgi, 2003).

The notable philosophers Heidegger (1962) and Merleau-Ponty (1962), amongst others, followed up on Husserl's work and developed a hermeneutic phenomenology. They rejected Husserl's reduction to the abstract because human observations are always made from *somewhere* (Larkin and Thompson, 2012; Miller et al., 2018). Heidegger introduced the concept of 'Dasein' ('there-being') which implies that persons are inextricably involved in the world and in relationship with others, or in other words: the experience of being is specific to human existence. Merleau-Ponty's phenomenology also takes the basic principle that persons are always embodied in the world. Hence, instead of Husserl's emphasis on transcending our everyday assumptions, Heidegger and Merleau-Ponty emphasise the worldly and embodied nature of our existence. Larkin and Thompson (2012, p.102) argue that the latter suggests that "phenomenological inquiry is a *situated* enterprise" and that hermeneutic phenomenology stresses that, although "phenomenology might be *descriptive* in its inclination, it can only be *interpretative* in its implementation".

#### **4.3.2. IPA's Epistemological Assumptions**

It is helpful to provide some background information that helps with understanding the epistemological assumptions that shape the characteristics and features of IPA as a qualitative research approach.

IPA has an interpretative (hermeneutic) phenomenological epistemology which implies that it is interested in obtaining an understanding of a participant's connectedness to his or her environment and the things in it that matter to them through the significance they assign to it. For a further elaboration of epistemological assumptions that IPA proceeds on, I draw on Larkin and Thompson (2012) who provide a concise yet comprehensive list:

- The world can only be understood through an understanding of experience.
- IPA researchers elicit and engage with the personal stories of participants "who are 'always-already' immersed in a linguistic, relational, cultural and physical world" (Larkin and Thompson, 2012, p.102).
- For this reason, an idiographic approach needs to be adhered to, in order to allow for a detailed focus on the particular.
- IPA prescribes a process of intersubjective meaning-making. This implies that researchers do not directly obtain an understanding of experience from participants, but through interaction and interpretation with participants.
- The latter also implies that IPA researchers need to be able to identify and reflect upon their own experiences and assumptions, in order to engage with participants' experiences.
- Interpretation has a pivotal position throughout the entire process of analysis. It is important that researchers recognise this, reflect on their own role in producing these interpretations and make sure that these are grounded in participants' views, thus giving voice to participants' accounts.

#### **4.3.3. Application of IPA to this Study**

As argued by Byrne (2001, p. 830) "methodology links a particular philosophy to the appropriate research methods and bridges philosophical notions to practical and applicable research strategies". Byrne emphasises that the phenomenological method, par excellence, is suitable for pursuing a deep

understanding of life experiences. Berglund (2015) builds an argument for the application of the phenomenological approach to entrepreneurship studies because it enables a rich appreciation of entrepreneurs' life-world and thus can inform both policy and practice.

Phenomenologists generally focus deeply on thick descriptions of individuals' lived experiences and engage in research that sticks to the details of particular cases (Flyvbjerg, 2001). Human experience is theorised in ways that respect complexity, ambiguity and emotionality (Weick, 1999). Phenomenological investigations of entrepreneurial failure (Cope, 2011; Heinze, 2013) suggest that entrepreneurs' experiences include topics that have a highly personal, emotional and social character (Berglund, 2015).

I applied IPA with the purpose to incorporate structure and derive meaning through comparison of emerging themes and patterns. IPA is "a contemporary qualitative research method grounded in phenomenology, hermeneutics and idiography" (Miller et al., 2018, p.240). I chose IPA over other qualitative approaches, because it is especially well-suited for analysis and interpretation of lived experiences of events that really matter to participants, such as venture failure. The focus on the meaning of events to participants shows IPA's engagement with an idiographic level of analysis - thus a focus on the particular rather than the general -as opposed to nomothetic analysis (Smith et al., 2009). Furthermore, IPA is concerned with meaning and processes, rather than causes and explanations. This matches well with the holistic process of entrepreneurial failure and what it means to entrepreneurs, as described in Chapter 3. IPA is an "approach to qualitative analysis with a particularly psychological interest in how people make sense of their experience" (Larkin and Thompson, 2012, p.101). The two key elements of IPA are *giving voice* to participants and *making sense* (interpretation) of their accounts. These two elements need to be well-balanced (Larkin and Thompson, 2012).

Further to the combination of phenomenology, hermeneutics and idiography that IPA draws upon, what makes IPA distinctive compared to other qualitative

approaches is that it aims to explore the sense that participants make of lived experiences and the impact of these on personal and social worlds while recognising the contribution of the researcher in interpreting the participants' interpretations of their experiences (Biggerstaff and Thompson, 2008; Smith et al., 2009; Wagstaff and Williams, 2014). For this study, these specific features of IPA enabled the researcher to engage with a small group of participants that were not easy to reach and who were generally wary to tell about their experiences of venture failure in the healthcare industry, and what it meant to them. I could get access to participants, win trust and obtain rich insights through my own experience, similar to the one of the participants (see paragraph 4.8 on my own role and perspective). The pivotal position of interpretation during the entire process of analysis requires researchers to reflect on their own role when generating interpretations that are grounded in participants' views (Larkin and Thompson, 2012). As demonstrated by Byrne and Shepherd (2015), a qualitative study on post-failure emotions and sensemaking among small business entrepreneurs, can also be done by conducting a multiple case study. However, such research method does not enable intersubjective meaning-making that helps with developing an understanding of the essence of the experience, it rather develops an in-depth description and analysis of multiple cases (Creswell, 2013). That said, most qualitative approaches, multiple case study included, "have the potential for a fruitful exchange with IPA" (Smith et al., 2009, p. 197). IPA seeks meaning of lived experiences through interpretation of individual narratives, moving between common important themes derived from analysis and comparing similarities and differences of individual cases at the same time. A difference with narrative research is its focus on exploring the life of an individual rather than interpretation of the essence of experience in IPA (Smith et al., 2009). Compared to most other qualitative research approaches, IPA's idiographic commitment i.e. the emphasis on the convergence and divergence between participants, "is unusual, even among other qualitative methodologies" (Pietkiewicz and Smith, 2014).

Smith et al. (2009, p. 201) discuss how IPA is distinctive from grounded theory, "which is often seen as the main alternative method for someone considering

IPA for a research study". The main difference is that grounded theory aims at developing a theory grounded in data from the field (Creswell, 2013) or generating a theoretical-level account of a particular phenomenon, as Smith et al. (2009) put it. Compared to IPA, this requires sampling on a relatively large scale. A grounded theory study typically pursues a conceptual explanation of a process or (inter)actions that involve many individuals while by contrast, "IPA is concerned with the micro analysis of individual experience, with the texture and nuance arising from the detailed exploration and presentation of actual slices of human life" (Smith et al., 2009, p. 202). Through complementary micro analyses and interpretation of individual experiences, IPA supports the objectives of this study by providing "rich thematic descriptions" (Cope, 2011, p. 608) of what it is like to experience the loss of a venture in the healthcare industry.

Hence, IPA is especially well-suited for this research because it facilitates deep and detailed examination of unique personal experiences (venture failure of small businesses) in a particular context (the healthcare industry) through intersubjective meaning-making, giving room to participants' voices whilst allowing the development of inter-case themes and recognising the researcher's centrality to analysis and research (Brocki and Wearden, 2006).

Finally, as mentioned above, compared to other qualitative methods, IPA has a fairly standardized methodology for data analysis (see paragraph 4.7 for the detailed steps of data analysis), or "a set of flexible guidelines" (Pietkiewicz and Smith, 2014) that "can afford new and novice researchers the opportunity to explore, in more detail, the 'lived experiences' of the research participants" (Alase, 2017, p.9). When these are applied adequately, through careful and explicit interpretative phenomenology, it becomes possible for researchers to move beyond the text and access participants' inner cognitive worlds (Biggerstaff and Thompson, 2008; Harper, 2012). Brocki and Wearden (2006, p. 89) mention that "IPA starts with but should go beyond a standard thematic analysis".

#### **4.4. IPA and the Research Questions**

Self-evidently, any research design must offer a fit-for-purpose approach towards answering the research question(s) and the methodology, in turn, dictates the precise formulation of research questions (Miller et al., 2018). Smith et al. (2009) stress that researchers should select IPA based on the epistemological nature of their research questions. When research questions are open and exploratory (instead of explanatory) and directed primarily at how participants make sense of experiences, researchers can apply IPA (Larkin and Thompson, 2012). Finlay (2011) notes that IPA questions often encourage reflection on the full experience of a phenomenon, including affective, cognitive, bodily, and behavioural components.

Miller et al. (2018, p.242) provide an overview of the phenomenological approaches to qualitative inquiry and, drawing on Smith et al. (2009) and Larkin and Thompson (2012), argue that the central question in IPA should be structured as follows: “How does [a particular person] in [a particular context] experience [a particular phenomenon]?” Further to the central question(s) or first-tier questions as Smith et al. (2009) call them, which should thus be focused on the experiences and interpretations of particular people in a particular context and therefore have an exploratory intent, some IPA research projects might also require second-tier questions that are used to engage with theory (Smith et al., 2009; Larkin and Thompson, 2012). Obviously, research questions in IPA projects are not meant for testing hypotheses nor building theory, but second-tier questions are typically less open and better-suited for opening a dialogue with extant theory. As suggested by Smith et al. (2009) and Larkin and Thompson (2012), secondary research questions can only be answered at the discussion stage and should only be brought up implicitly during data collection (i.e. interviews with participants).

In line with the above, I formulated one central research question and two secondary questions. The central question reads as follows: “*How do healthcare entrepreneurs experience and make sense of failure of their venture?*” while the second-tier questions are “*How does entrepreneurial*

*optimism relate to the experience of venture failure?” and How is the impact of failure conceptualised/ perceived by healthcare entrepreneurs?*

Congruent with IPA guidance, the central question is open, exploratory and focused on the experiences while the secondary questions are more theory-driven, pointed and meant to engage with the literature reviewed in chapters 2 and 3.

#### **4.5. Research Participants**

Smith et al. (2009) and Larkin and Thompson (2012) recommend a purposive and reasonably homogeneous sample. Selecting participants purposively means that the topic really matters to them and that they can offer rich, detailed perspectives about their unique lived experiences. As Patton (1990, p. 169) indicates, “the logic and power of purposeful sampling lies in selecting information-rich cases for study in depth. Information-rich cases are those from which one can learn a great deal about issues of central importance to the purpose of the research, thus the term purposeful sampling”.

Finding samples that are adequately homogeneous implies that participants have an experiential understanding of the topic at hand (Larkin and Thompson, 2012). However, deciding about the extent of homogeneity is often a practical problem, especially for research questions where the phenomenon under investigation is rare which complicates accessibility and willingness to participate (Cope, 2011). This requires the researcher to be pragmatic in selecting participants and homogeneity of the research sample is defined by common lived experience of a phenomenon (venture failure of a small venture) in a similar context (the healthcare industry). Brocki and Wearden (2006, p.95) argue that IPA sampling can only be broadly homogeneous because “in IPA the aim is to select participants in order to illuminate a particular research question, and to develop a full and interesting interpretation of the data”. In any case, the topics studied must have direct relevance to the lives of the people in the sample group. For this thesis project, not only the topic at hand is rather rare, there is also additional complexity around finding participants

who are willing to tell about their experiences, as failure is often shrouded with a veil of embarrassment, guilt and stigma (see Chapter 3). Zacharakis et al. (1999), Cope (2011) and Jenkins and McKelvie (2016) note that it is not an easy task to find entrepreneurs who experienced failure and are willing to openly share their experiences in a research setting. Therefore, IPA researchers should adopt a pragmatic approach in selecting participants. In line with Patton's (1990) suggestions, this involves some degree of opportunism and convenience. Cope (2011) argues that the potential for learning must be the most important "criterion to representativeness in terms of either population or probability" and that "the credibility and strength of IPA sample selection rests on theoretical (rather than empirical) generalisability" (Cope, 2011, p. 609).

IPA studies are typically conducted through the use of small samples. This is because IPA looks for a fine-grained account of the individual experience and, as stated by Smith et al., (2009, p. 51): "the issue is quality, not quantity, and given the complexity of most human phenomena, IPA studies usually benefit from a concentrated focus on a small number of cases". IPA sampling is purposive, and the methodology defends the use of small samples because participants are selected based on particular features of experiences they exhibit (in this case entrepreneurial failure of a health-tech venture). This enables the researcher to develop a detailed understanding of central themes that emerge from data analysis and enables a competent theoretical perspective to be developed as long as adequate contextualisation is maintained (Chapman and Smith, 2002). IPA does not clearly prescribe what the exact sample size should be. Nevertheless, Smith and Eatough (2006) recommend six to eight participants as an appropriate sample size for a typical IPA study. Later, Smith et al. (2009) in their seminal work on IPA suggest three to six participants for student projects using IPA and specifically recommend a total number of interviews (rather than participants) of between four and ten for professional doctorates (e.g. a study of four participants interviewed twice). Regarding the latter, it is important to note that it takes a significant amount of time for less experienced qualitative researchers to analyse the data, following IPA methodology, thus extensively using interpretation and reflection, first

case by case and subsequently, on an overarching, cross-case level. Only then, patterns of meaning to participants who share similar experiences, can emerge.

It was a significant challenge to find participants for this thesis study. Obviously it is much easier to find successful healthcare entrepreneurs who are willing to share their experiences, rather than entrepreneurs who failed in their endeavours to establish and grow a business in the healthcare industry. I strived to find participants whose profiles and experiences match my areas of interest and would enable me to find answers to my research questions. As part of this purposeful sampling process I planned to find participants through my own professional network across Western Europe. I used a snowballing technique (Hussey and Hussey, 1997) among friends, business relations and respondents (i.e. potential participants) to find other suitable respondents. Streeton et al. (2004) describe snowballing as a discrete method of participant recruitment where samples emerge through a process of reference from one person to the next. This enables the researcher to quickly “approach participants with credibility from being sponsored by a named person” (Streeton et al., 2004, p. 37, drawing on Denscombe, 1997). This sampling method requires that the researcher understands the social situation that is investigated as this is needed to win trust and thus for getting access to a small group of contacts with particular experiences. It is essentially about approaching members of a network of ‘hard to reach targets’ and it helps a great deal if the researcher is part of this network or has direct access to the network through someone else (Faugier and Sargeant, 1997).

I started to speak to a couple of entrepreneurs who experienced failure of their healthcare technology start-up and hoped that through the snowballing technique I would soon have a sufficient number of participants for my study. In parallel, as a back-up scenario, in case I would not be able to find an adequate number of participants, I also used other (indirect) network sources, for instance groups on LinkedIn that I am a member of, such as ‘The Entrepreneurs Network’, ‘Medical Devices Start-ups’ and ‘Health 2.0’. In addition, I contacted the overarching Chamber of Commerce organisation in

the Netherlands, Start-up Delta (an independent public-private partnership in the Netherlands), and several healthcare investors. Although I received positive responses very soon, mainly from respondents that I approached personally by telephone, Email or LinkedIn messaging, and I managed to fix dates for interviews, the sampling process turned out to be a lot more challenging than I anticipated. Respondents either cancelled or postponed interview appointments and I did not manage to find other respondents that were willing to participate. Although never mentioned explicitly by (potential) participants, this might confirm the assertion that entrepreneurs do not like to talk about failure and that when studying personal failure, it is "difficult to identify a relevant sample population" (Jenkins and McKelvie, 2016, p. 183).

Ethical approval was granted by the University of Bradford and I selected participants whose anonymity was guaranteed by changing their real names into fictive names, using fictive company names and finally by anonymising any reference to company documents. Participants' prior consent was sought (see Appendix 1. for an example of a participant consent form).

Eventually, the sample consisted of seven entrepreneurs who experienced failure of their small businesses that were geographically spread throughout Western Europe i.e. one from Belgium, one from France, one from Denmark, two from the Netherlands, one from Germany and one from the United Kingdom, all EU member states at the time of data collection. Table 4.1 provides a profile of each participant. The profile is derived from participants' narratives, in line with IPA methodology, thus no prior structured questions were asked before starting the interviews (as it was not my objective to collect and analyse quantitative data about participants, instead I started the interviews with an open question).

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<b>Ludo (Belgium)</b>	Prior to starting his own business in 1998, Ludo had worked for various large international companies in the medical device industry. Although he had climbed the corporate ladder and had an excellent income, he felt that he was somehow forced into a 'corporate mould'. When he spotted an opportunity to establish his own business, allowing him to follow his passion for the human aspects in healthcare in combination with new technology, he decided to set up his own company. Initially things went very well, and he was able to grow the company with the help of a private
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	<p>investor and could soon hire permanent staff. In 2003, some of the contracts he had closed with hospitals, were not renewed and revenue dropped significantly as a result. The company did not have financial reserves and it turned out very difficult to generate new business. This was mainly because the clients (i.e. hospitals) wanted references from several other hospitals and did not want to take the risk to collaborate with Ludo's company. Early 2006 the company went bankrupt. Ludo suffered heavily from the event but eventually got to grips with the situation and was able to start a new venture (not related to healthcare) in 2009 which has been successful until the present day.</p>
<p><b>Jan (Netherlands)</b></p>	<p>Jan had worked as a cardiologist in a Dutch academic hospital before starting his own business. In 2005, Jan invented a tool that helped improving coronary stent procedures. Within an academic research setting, the device had been discussed with peer cardiologists and was further developed. Jan decided that it would be very interesting to bring the device to the market. For this purpose, he worked very closely with a venture capitalist company who basically guided to whole process towards market launch by providing financial funds, technical resources, regulatory approvals and commercial infrastructure. Although FDA approval and CE marking were obtained, and the product was sold to several pilot customers, Jan's invention was never marketed as planned. His company ceased to exist. Jan continued his work as a cardiologist and will abstain from entrepreneurship as he would not want to go through such a lengthy and painful process again.</p>
<p><b>Annette (Netherlands)</b></p>	<p>Annette was the owner of a health-tech consultancy company between 2011 and 2014. She was a seasoned healthcare executive and had worked both in public health (regional hospital) and for a large health-tech multinational company. She started her own company because she saw a need for advisory services aimed at improving the business savviness of hospitals by helping them to engage with health-tech vendors in a more efficient way. Her understanding of both worlds, each with their own set of beliefs and objectives, helped her to manoeuvre between stakeholders. However, things did not work out well for Annette as, despite all her efforts, she did not manage to make enough money to make ends meet. Annette found it hard to cope with the uncertainty that came with entrepreneurship and already experienced anxiety during the early stages of her venture. She was heartbroken when her company failed but also felt relieved somehow. Annette is now a lecturer at a small business school and would not consider starting a company again.</p>
<p><b>Dieter (Germany)</b></p>	<p>When Dieter sold his software company in 2010, he jumped on the bandwagon of e-health. He could use his newly acquired capital as an initial investment for developing a medical informatics solution designed to improve information exchange and communication in a standardised way between healthcare providers. According to Dieter, the product was well-received by pilot customers, but it was extremely difficult to get it adopted by larger hospital clients. As the solution would only be viable when used by a large number of healthcare providers, Dieter's shareholders and investors lost faith and withdrew from the business. The company went bust in 2015 which had a profound impact on Dieter's life. It took him quite a long time to recover, both financially and emotionally. Nevertheless, he became the managing director of another health-tech start-up company early 2018 and feels everything is moving into the right direction again.</p>
<p><b>Matthieu (France)</b></p>	<p>As an experienced pharmacist, Matthieu broadened his horizon and completed his full-time MBA at INSEAD in 2013. Rather than resuming his pharmacist job, he wanted to follow his dream and became an entrepreneur. His company provided a technological solution aimed at optimising stock levels of medication at community pharmacies and local medical centres. The solution essentially consisted of connecting inventory data across pharmaceutical wholesalers, community pharmacies and linking it to recurring prescription patterns. Matthieu indicated that small</p>

	healthcare entrepreneurs in France are hampered by both the big corporations and the government. Upon failure, Matthieu suffered financial, emotional and social consequences. Out of financial need, he took on a job as a community pharmacist again but feels this is not what he would like to do for the rest of his life. He still has the ambition to start a company again, some day.
<b>Peter (U.K.)</b>	Peter had two ventures in the period 2009 – 2016. One failed in 2013 and the other one was successfully sold to an investment firm in 2016. The business that failed, aimed at facilitating easier and quicker money transfers between health insurers, the NHS and private healthcare providers. The focus was on reimbursement models around prescription medication. According to Peter, the venture failed due to slow decision making at the NHS and private insurers. Consequently, he could not generate revenue nor invest further in the solution. Peter was very upset when he had to let go of this business because he firmly believed that his solution would benefit all stakeholders in the health system. He noticed that due to this failure experience he was stigmatised which made it impossible to undertake a new venture in the British healthcare industry. Today, Peter is a CFO at a financial services company in Switzerland and is not directly involved in the health-tech industry anymore.
<b>Erik (Denmark)</b>	Erik co-founded a company in mobile x-ray equipment in 2008 where he was the Chief Technology Officer until the company's demise in 2017. Although the company had been very successful in offering high-end mobile x-ray devices, it lost its market position due to fierce competition from emerging markets. Erik considered the technology and clinical value superior to cheaper x-ray systems but indicated that in the last 2 or 3 years of its existence, the company could not win hospital tenders anymore. This was very frustrating to Erik. The closure of the business was a very traumatic experience for him. Erik is currently considering his professional future.

**Table 4.1 - Profile of Participants (pseudonyms used)**

#### **4.6. Data Collection**

Data collection was complemented by a review of documents provided by the entrepreneurs, e.g. the business plan that was primarily used to outline market opportunities and business objectives as presented to (potential) financiers. The purpose of reviewing the latter was to see to what extent initial beliefs and entrepreneurial confidence were reflected in these documents and how this could inform the perceptions and retrospective reflections of individual participants.

In IPA, generally, semi-structured interviews are used for data collection (Smith et al., 2009; Larkin and Thompson, 2012). This is an approach that matches well with the idiographic commitments of IPA and allows researchers

to engage in real-time, in-depth conversations with participants (Pietkiewicz and Smith, 2014). In IPA, data collection is not restricted to interviews, also other data sources can be used, as long as these are helpful for developing an in-depth understanding of participants' personal thoughts and experiences (Biggerstaff and Thompson, 2008; Miller et al., 2018). For this purpose, I reviewed other documents that participants were willing to share with me, e.g. initial business plans, Powerpoint presentations laying out value propositions of their former ventures and, to a limited extent, information that I could access through the (former) websites of the ventures concerned (some participants shared the content of their former websites with me).

Although the nature of qualitative research would prescribe the use of unstructured interviews (Pawson, 1996), the research objective of discovery of themes, patterns and comparison between participants, could only be achieved by steering the conversation somewhat thus avoiding broad areas of discussion that would not be relevant to the research topics. This means that I used (very loosely) semi-structured interviews with a limited number of questions, while having at hand a 'prompt sheet' with a few main themes for discussion with participants (Biggerstaff and Thompson, 2008). To make sure that I did not impair the open IPA approach to interviewing, the prompt sheet was not intended to be prescriptive and certainly did not prevent participants from telling their stories in their own pace and words, allowing them to discuss freely what they wanted to discuss. In practice, it felt unnatural to use the prompt sheet and I only looked at it on a few occasions. It merely served as a tool for keeping the conversation going and occasionally for (re)focusing towards the research questions, without ever being prescriptive or limiting participants in their expressions.

The sequence of the questions and the degree to which topics were discussed, was not fixed. This was to make sure that the interviewees felt comfortable by trying to establish a conversation setting that felt 'as normal as possible'. In IPA it is important that participants can determine the course of the dialogue (Biggerstaff and Thompson, 2008; Cope, 2011). The objective was to map out participants' subjective perception and lived experiences, in their own words,

of their failed healthcare venture. Hence, the focus was on the interviewees' stories rather than on my research concepts.

With ethical approval for the entire study by the University and participants' written consent, the interviews took place at locations that suited participants best. Although IPA does not prescribe face to face interviews, this was preferable as it allows the researcher to obtain insights through non-verbal communication. For practical reasons however, some interviews took place by telephone or Skype call. I carried out one test interview, with a former peer entrepreneur of my own health-tech start-up company, so that I could identify whether I needed to make any changes to the data collection process. I learned from this pilot interview that I tried to lead the course of conversation too much, while I should let the participant take the lead. I took this into account for subsequent interviews. Table 4.2 provides an overview of the interviews that were conducted for this research. All participants were interviewed at least twice. Considering the sensitivity of the topic under study and in order to obtain the depth required for the research, I needed to gain participants' trust. Generally, during the first round of interviews, participants were hesitant in revealing details about their experiences and they bared themselves more during the follow up interviews. Especially the emotional hardship and the impact of venture failure on social relationships, rose to the surface during the follow up interviews.

Participant	Interviews		Venue / call	Duration (minutes)	Remarks
	(#)	Dates			
Annette	2	14/12/2018	Motorway restaurant	80	first interview was postponed twice
		19/01/2019	Skype call	40	
Dieter	2	13/10/2018	Skype call	50	
		01/03/2019	Conference centre	60	
Erik	3	17/11/2018	Telephone call	45	first interview was postponed twice
		23/01/2019	Hotel	70	
		26/04/2019	Skype call	20	
Jan	3	16/09/2018	Skype call	20	
		08/12/2018	Jan's home	80	
		08/03/2019	Motorway restaurant	30	
Ludo	1	05/04/2019	Coffee place	90	Ludo did not want to do more than 1 session
Matthieu	2	12/09/2018	Skype call	50	
		19/02/2019	Hotel	80	
Peter	2	21/02/2019	Skype call	45	first interview was postponed three times
		08/05/2019	Airport café	60	

**Table 4.2 - Interviews**

Drawing on the research questions mentioned above, I was interested in the lived experiences of venture failure by health-tech entrepreneurs. The phenomenological interviewer should have no a priori, structured questions regarding the topic (Smith et al.(1999), Cope (2011) and Heinze (2013). This means that I began the interviews with a broad general question, namely *“Can you tell me about your venture and the venture failure?”*

Further to the opening question, which relates most to the central question of this research project, I followed the course of the dialogue while keeping in mind my research questions and my objective to obtain insights that would allow me to obtain rich descriptions of lived experiences of entrepreneurial failure, using the prompt sheet that contained some key themes that I anticipated based on literature review (see Appendix 2.). For instance, in line with my second-tier research questions, I wanted to find out how participants experienced the pre-venture stage of their companies and to what extent cognitive mechanisms such as the optimism bias, played a role.

I fully transcribed the recorded interviews using web-based speech-to-text software from AmberScript ([www.amberscript.com](http://www.amberscript.com)). The interviews took place in several languages (i.e. Dutch, German and English) and therefore I had to translate the full verbatim transcripts because I wanted to have all data in English for analysis and comparison. Translated transcripts were approved by participants for avoiding translation errors and textual/ grammatical misinterpretations. Having said that, on several occasions, I re-read and reflected on the verbatim transcripts in their original language, e.g. for interpreting meaning through language-specific or culturally-grounded nuances.

Although AmberScript allowed translation of multiple languages, I still needed to do some significant work on preparing the dataset. It is important to note that I used true verbatim transcripts, i.e. the audio files were transferred exactly the way they were recorded, including pauses and non-verbal utterances, in accordance with recommendations from e.g. Biggerstaff and Thompson (2008, p. 217): “after each interview, the recording was transcribed with

meticulous accuracy, often including, for example, indications of pauses, mishearings, apparent mistakes, and even speech dynamics where these are in any way remarkable”.

#### **4.7. Data Analysis**

In this section, I do not only draw on the theoretical work about IPA as a qualitative research method but also the way this work has been interpreted in practice for some empirical IPA studies on entrepreneurial failure (e.g. Cope, 2011; and Heinze, 2013).

In IPA it is important to continuously be aware that phenomenology is the study of the lived experiences of persons, the view that these experiences are conscious ones and the development of descriptions of the essences of these experiences (Creswell, 2007, drawing on Van Manen, 1990 and Moustakas, 1994). As briefly discussed above, there are various types of phenomenology, and IPA is a hermeneutical phenomenological research approach that focuses on lived experience and is seen as an interpretative rather than a descriptive process. Data are collected from individuals who have experienced the phenomenon and usually in-depth interviews are conducted with a small number of individuals. As outlined above, the in-depth interview is widely used in qualitative research and is also often used in phenomenological studies. In IPA, the researcher’s ability to be empathetic with participants’ is important for interpretation and understanding of lived experiences. Because phenomenological data analysis has its origins in the field of psychology, and is also widely used in healthcare studies, it seems to fit well with the purpose of this project.

Obviously, there are other qualitative methods to data analysis and even within the wider phenomenology spectrum, there are several approaches to choose from. The reason I have selected IPA over other qualitative methods such as e.g. narrative analysis is because I am most interested in the interpretation of participants’ stories and perhaps narrative description would provide

insufficient structure for deriving meaningful comparison between participants' experiences. Also, in comparison with other qualitative methods, my research demands a more systematic and rigorous analysis of the information provided by participants who share their personal stories of lived experiences of entrepreneurial failure.

Other phenomenological approaches such as Moustakas' (1994) psychological phenomenology is not fit for purpose as it is too transcendental and I find the methods of phenomenological reduction too complex and less suitable for this study because I could simply not isolate my own role and experiences through epoche and the process of bracketing described by Moustakas. Van Manen's (1990) phenomenological research approach, although more practical and hermeneutic, would also not be purposive as it lacks rules and methods (Dowling, 2007).

Central to the IPA method is that the researcher's engagement with the participant has an interpretative element and that it is possible to access an individual's inner world through careful and explicit interpretative methodology. Cope (2011, p.610) notes that "as a new and developing approach to phenomenological inquiry, IPA provides a clear set of thorough and accessible guidelines". However, these clear guidelines should not be seen as a single prescription for working with the data. In many methods chapters and published papers, IPA "has been characterized by a healthy flexibility in matters of analytical development" (Smith et al., 2009, p. 79). The focus in IPA analysis is on participants' attempts to make sense of their experiences. Miller et al. (2018) state that this focus is shared by all IPA studies, and is about "paying attention to patterns in participants' experiences, considering the ways in which they make meaning of those experiences, and interpreting those experiences within social and theoretical contexts" (p. 246).

IPA analysis requires active engagement with the data. Smith et al. (2009, p. 90) argue that "the process of engaging with the data is almost as important as the actual physical task of writing on the transcript itself" (they mean writing notes on the transcript which is important for later analysis, reflection and

development of emerging themes). As IPA is all about the interplay between the participant's interpretation of lived experience and the researcher's interpretation of this in turn, analysis must move beyond the text, and the software's algorithms used in computer assisted qualitative data analysis such as NVivo, do not allow for that. It must be noted however, that there is debate about the suitability of qualitative data analysis software for IPA analysis (Cf. Gibbs, 2003; Smith et al., 2009; Larkin and Thompson, 2012; Miller et al., 2018).

Furthermore, it is important to note that IPA analysis moves from initial descriptive analysis to secondary interpretative analysis (Miller et al., 2018). Hence, IPA consists of two levels of analysis: it starts with description of the particular (individual) cases to interpretation of overarching, cross-case themes, based on meaning-making by participants. Pietkiewicz and Smith (2014) also explicitly mention that it is important in IPA studies to pay attention to an examination of convergence and divergence, thus providing insights in the different perceptions of experience by participants and to what extent these are similar and different.

Once the researcher has identified what *matters* to participants and what this *means* to them, an interpretative synthesis of the analytical work can be developed (Larkin and Thompson, 2012). In order to reach to that point, the researcher must adopt a cyclical process proceeding through several iterative stages (Biggerstaff and Thompson, 2008) or as stated by Larkin and Thompson (2012), the analysis process is an iterative and inductive cycle.

For this thesis project, I draw on the levels of interpretative phenomenological analysis outlined by Smith et al. (2009, p. 79-80), Cope (2011, p. 611) and Larkin and Thompson (2012, p. 105) who all have a slightly different interpretation of the analytical process, which is fine, as within IPA "there is considerable room for manoeuvre" (Larkin and Thompson, 2012, p. 106). Larkin and Thompson almost literally interpret Smith et al. (2009), only adding emphasis and an explicit argument for starting and ending with reflection on researchers' own preconceptions. For me, as a novice researcher however, it

was very helpful to adhere to the recommended analytical process steps as meticulously as possible and for that reason I drew predominantly on the process steps described by Cope, 2011 (also applied by other authors, see e.g. Heinze, 2013), also because the subject of Cope’s study closely relates to this one. The levels of analysis that I applied are as shown in Table 4.3.

	<b>Process Step</b>	<b>Aim</b>	<b>Description of Analysis</b>
1	Reading & re-reading individual cases	Familiarisation/ gaining insight	Familiarisation/ gaining insight through reading and re-reading of all transcribed interviews.
2	Diagnosis of each transcript	Immersion and sensemaking	Diagnosis of each transcription ('free textual analysis').
3	Developing intra-case themes	Categorisation	Categorisation through developing themes for each single case (adding clusters of meaning).
4	Developing inter-case themes	Pattern recognition	Association / pattern recognition through analysis across all themes that emerged from the previous step, looking for shared aspects of experience.
5	Writing-up	Interpretation	Interpretation/ representation through writing up my own interpretative activity and participants' accounts in their own words. The aim is to 'let the data speak for itself'.
6	Linkage to literature	Explanation	Explanation and extraction through "the process of enfolding literature" (Cope, 2011).

**Table 4.3 - IPA Levels of Analysis (adapted from Cope, 2011 and Smith, 2009)**

As suggested by Larkin and Thompson (2012) it might be helpful that the researcher guides the reader through the analytic work, i.e. by giving examples of things that matter to participants, highlighting the researcher’s interpretations of participants’ accounts and “exploring any data that do not fit prevailing patterns” (p. 105). Rather than providing a detailed step-by-step overview of the process, below I briefly elaborate each of the process steps that I carried out. Later, in the chapter on findings, I add analysis and interpretation for each of the themes that emerged from data analysis, in accordance with Cope’s (2011) approach. I note that in Cope’s paper (2011),

the section on data analysis is very short but that further information on the analytical process (specifically interpretation and engagement with literature) is incorporated in the discussion of themes.

1. The first step was aimed at familiarisation with the narratives and developing a first 'feel' of what it is all about. This step, suggested by Cope (2011), can be considered as preparation towards the analytic work and consisted of reading and re-reading the transcribed interviews (case by case) and listening back to the recordings to gain an appreciation of the whole story of each participant thus becoming 'intimate' with the account (Cope, 2011). Larkin and Thompson (2012) suggest that this step can be used for reflection on one's own preconceptions through 'free' or 'open' coding i.e. making notes of any thoughts, observations and reflections that occur while reading the transcripts (Smith et al., 1999). Such notes can include recurring phrases, the researcher's own questions and emotions and also notes on the language used by the participants. Initial memos and notes do not yet serve an analytic purpose but are primarily aimed at familiarisation.
2. This step involved noting and coding within transcripts of individual cases and was aimed at "deeper immersion into the account" (Heinze, 2013, p. 24). Cope (2011) notes that this is a process of immersion and sensemaking. A 'free textual analysis' was performed, where potentially significant excerpts were highlighted. Units of meaning were identified for each transcript. Larkin and Thompson (2012) call this process 'phenomenological coding' and recommend close, line-by-line coding rather than free textual analysis as suggested by Cope (2011). I chose the method suggested by Cope (2011) as this enabled me to focus only on excerpts that I deemed significant and relevant (being aware of the risk of the analyst's bias towards assessment of significance and relevance and acknowledging that interpretation already began at this phase, although still of descriptive nature). Identification of anything that mattered to participants (objects of concern) and, subsequently, looking

for experiential claims (through clues of meaning), was most important during this step. The units of meaning were then grouped to form common clusters of meaning. I provide a worked example below:

Free textual coding, staying close to data; generating possible interpretations	Transcript excerpt (Erik)	Checking/ clarifying core content
<p><i>Feeling of unease</i></p> <ul style="list-style-type: none"> <li>• We did not talk</li> <li>• I did not know what to say</li> </ul> <p><i>Being blamed</i></p> <ul style="list-style-type: none"> <li>• I felt frowned upon</li> </ul> <p><i>Social isolation</i></p> <ul style="list-style-type: none"> <li>• I have these experiences often</li> </ul> <p>Situation is <i>awkward</i>?</p>	<p>"I was waiting in line at our local baker and one of our former service engineers was there. We did not talk, I did not know what to say. I felt that I was frowned upon, I don't know...I have these sorts of experiences quite often, it's awkward..."</p>	<p><i>Objects of concern:</i> Former colleague's disapproval. Lack of understanding for my situation.</p> <p><i>Experiential claim:</i> This is 'awkward'</p> <p><b>Shame? Social discomfort?</b></p>

**Table 4.4 - IPA levels of data analysis – Worked Example of Step 2**  
(adapted from Larkin and Thompson, 2012, p. 107)

3. The third level of analysis concerned development of intra-case themes. The objects of concern (things that matter to participants) and the clusters of meaning, identified in the previous stage, were clustered. The clusters of meaning, linked to the explorative comments and holistic reflective analysis of the first stage, led to emergent themes. Because the data set had grown by all the noting and coding of the previous two stages, many small units of meaning had emerged. I bundled these, determined hierarchical relationships between them and thus reduced the volume of detail which led to groups of themes for each single case. Cope (2011) refers to these as 'master-theme lists' while Smith et al. (2009) reserve this term for later cross-case superordinate themes. For the sake of consistency and the ease of following one set of recommendations for IPA data analysis, I adopted Cope's approach.
  
4. Upon completion of the first three steps, which aimed at deriving intra-case emergent themes, I conducted a meta-level analysis across the cases. It soon became apparent that some re-configuration and re-

labeling of themes was necessary. Heinze (2013, p. 26) states that “this stage of IPA has a dual quality, revealing the participants’ unique idiosyncratic facets as well as higher order concepts”. I compared the master-theme lists from step 3 and attempted to identify and explain similarities and differences. Recognition of patterns was sought by looking for shared aspects of experience, creating superordinate categories that aggregated themes from across the accounts (Cope, 2011, drawing on Smith et al., 1999). Both general and unique themes were included for all the interviews. Larkin and Thompson (2012) characterise this analysis level as “development of a structure that illustrates the relationships between themes” (p. 111) and argue that analysts must think and reflect carefully before deciding which inter-case themes best represent the patterns of meaning in the dataset. My interpretation of this is that working towards superordinate inter-case themes implies gradual reduction of the dataset, hence analysts must make choices in a consistent, well-considered manner. Larkin and Thompson (2012) state that iterative movement is inherent in this process and that the most effective inter-case themes are usually those “that clearly evoke the content of the material within them, *and* the meanings that are attached to that content by the participants” (p. 111). A worked example of the final structure showing one superordinate theme at the level of an across-transcripts analysis (adapted from Larkin and Thompson, p. 113) is provided in Appendix 3., and a list of the four superordinate themes with their associated cross-case sub-themes can be seen in Appendix 4.

5. I adopted Cope’s (2011) approach to (preparing) the writing-up of findings and note that this differs slightly from guidelines offered by Smith et al. (1999 and 2009) and Larkin and Thompson (2012) in the sense that the findings section is immediately complemented with analysis and interpretation and thus could be considered an integral part of the data analysis process itself. Smith et al. (2009, p. 108) however, state that there is not a single right way to write up an IPA analysis so there is ample room for authors’ creativity. It is logical that

the IPA findings section is very substantial and more discursive than other approaches due to the reader's critical role within the hermeneutic dialogue (cf. Smith et al., 2009; Heinze, 2013). Heinze (2013) argues that the researcher needs to combine accounts of his or her data and has to offer an interpretation that mirrors his/ her sensemaking. Cope (2011) stresses the importance of allowing the data 'to speak for itself' through maintaining an inductive, phenomenological approach, thus writing up must be done 'from the data' and the presentation of any theme begins with giving voice to participants' interpretations of lived experiences, in their own words, followed by the interpretative account of the researcher.

6. The final step was to produce theoretical explanations, linked to the literature review discussed in chapters 2 and 3, and embedded in the inter-case themes while applying abstraction of the higher order inter-case concepts that emerged in step 4. Cope (2011) indicates that this is a theory-building process of 'enfolding literature' which can be understood as a process of linking research findings to theoretical concepts derived from literature. In line with Cope's process guidelines, I conducted "an iterative and comparative process of tacking back and forth between existing theory and the data, whilst remaining sensitive to the unique situated experiences of the participants" (p. 611).

In short, the data analysis process that I conducted, consisted of in-depth single-case analysis to identify emergent themes, which led to identification of superordinate (and consequently also subordinate) themes. Subsequently I carried out cross-case analyses. The initial analysis was descriptive, the secondary level of analysis was interpretative (Smith et al., 2009; Larkin and Thompson, 2012; Miller et al., 2018). Further to the detailed analysis process described above, it must be mentioned that the creation of superordinate themes was a process of selection whereby the richness of the selected text (significant statements) and how this might inform other parts of a participant's account, was considered. This means, as suggested by Biggerstaff and Thompson (2008, p. 218), that "the mere frequency of a theme does not necessarily mean it should be selected as superordinate to, or more important

than, other themes”. It is the researcher who, through careful analysis and allowing room for divergence and convergence, creates a consolidated list of themes across cases, based on lists of themes from each interview. I needed to repeat the process of producing list of intra-case themes and thematic cross-case analysis several times, in order to test new emerging themes against earlier findings. The sheer amount of interview data required a careful yet rigorous selection process.

As mentioned above, IPA accommodates drawing on multiple data sources. Besides the interviews, that formed my main source of data, I also used analyses of (fragments of) initial business plans, presentations and other documents, to see how these could support (or perhaps disjoint) participants’ experiences of the early stages of the start-up.

#### **4.8. My Professional Role and Perspective**

This section reflects on my role as an academic practitioner within the context of carrying out IPA research about lived experience of venture failure. Whilst my aim is to provide appropriate academic objectivity in my data collection and analysis, it is important to acknowledge my own biases and preconceptions and above all, my personal experience with the subject under study.

In IPA, the researcher’s role can be a distinctive factor in the research process, both at data collection and analysis stages, thus impacting research outcomes. It is important that the researcher is constantly aware of this (Smith et al., 2009; Larkin and Thompson, 2012; Miller et al., 2018, in their accounts on IPA methodology). Larkin and Thompson (2012, p.103) acknowledge the importance of the researcher’s preconceptions and interpretations throughout the entire research process. They emphasise that information about participants’ experiences can never be obtained directly but only “through a process of intersubjective meaning-making” and that IPA researchers can only engage with other people’s experience if they can “identify and reflect upon their own experiences and assumptions”. Cope (2011) indicates that IPA

implies the interplay between the interpretative activity of the researcher and the participant's account of his/her experience in his/ her own words. Other IPA authors put more emphasis on the researcher's role during data analysis, e.g. Miller et al. (2018) state that the analyst is central to the interpretative process and that researchers must record and reflect on their preconceptions reflexively (e.g. through reflexive journals and memos). Larkin and Thompson (2012, p.106) even go as far as suggesting that researchers should start data analysis "by working with a license to be wrong, presumptive, wayward, biased, creative, self-absorbed and unsystematic", which I wish to do herewith.

Without any doubt my own experiences and perhaps my personal relationships with some of the participants played a role in how the research was conducted and how data was analysed and conclusions were drawn. However, I do not consider my influence on the results of his study as an inconvenient 'bias', but I would rather indicate it explicitly as an essential factor of the method of research as my own experiences, memories and feelings are an integral part of data analysis, interpretation and discussion of findings. It is essential to IPA that the researcher tries to make sense of the participants trying to make sense of their lived experiences. This is called a 'double hermeneutic' by Smith et al., 2009. In other words: IPA allows moving beyond the text and interpreting experiences through insights derived from the researcher's own experience (Harper, 2012).

As discussed above, in IPA it is important that the researcher can relate to the participants, preferably by understanding participants' social environment and experiences. I believe that my professional background enabled me to do so. My career spans over twenty years of business experience, mainly in the healthcare industry. I held commercial roles at various companies active in the healthcare domain, i.e. in medical imaging technology (Dalsa and Philips Healthcare), pharmaceutical services (Alliance Healthcare, part of Walgreens Boots Alliance), digital marketing and sales services (Hilver), hospital pharmacy automation (Swisslog Healthcare) and also worked for Microsoft, carrying responsibility for the global partnership with Philips Healthcare. I

believe this helped me to develop a holistic understanding of the healthcare industry and I am convinced that this helped me in the interviews with participants. Also, as mentioned earlier, being a health-industry professional benefited the research project as I could quite easily approach relations in my network (either first or second tier).

What is possibly even more important, is that I experienced venture failure in the healthcare industry myself. This motivated me to do this research. I was one of the founders of a company named Hilver and directly experienced its short life cycle, from the pre-venture phase to cessation of its activities. This experience, including reflection of the impact it had on my life, helped me to put myself in the position of participants and eased establishment of mutual understanding and trust.

This does not mean that I conducted reflexive phenomenological research, i.e. using my own experience as data (Berglund, 2007). Although I could have chosen to do this, I did not feel comfortable with it and I think it would have blurred my position as an academic researcher. Instead, I adhered to IPA guidance on intersubjective meaning-making through engaging with participants' experience and consciously reflecting on my own experiences and assumptions.

#### **4.9. IPA Quality Criteria**

Moving away from the classical discussion of quality issues with qualitative research vs. quantitative research, I strived for the four quality criteria for qualitative research as described by Bryman (2008, p.380) namely: "sensitivity to context; commitment & rigour; transparency & coherence and impact & importance". Consequently, engagement with the participants, thoroughness, clearly specified research methods and a reflective stance are criteria I have tried to comply with.

Bryman's quality criteria seem to match closely with the criteria that the IPA research community has adopted for assessing quality of research. However, as IPA is a rather new and developing approach to phenomenological inquiry (Cope, 2011), and somehow suffered from proliferation upon publication of Smith's seminal book in 2009, several IPA 'founders', including Jonathan Smith, Andrew Thompson and Michael Larkin, deemed it necessary to keep an eye on the quality of published work, emphasising the features that a 'good' piece of IPA research should demonstrate. Smith (2011) performed a systematic review of published IPA articles and described the general quality indicators that IPA researchers should look for. He classified the IPA studies that he reviewed as either 'good', 'acceptable' or 'unacceptable', based on assessment against a set of quality criteria. Drawing on Smith (2011), complemented with discussions by Larkin and Thompson (2012) and Miller et al. (2018), the IPA quality guidelines that I tried to adhere to, were as follows:

- a. High-quality IPA research must first and foremost adhere to the three theoretical principles of phenomenology, hermeneutics, and idiography (Smith, 2011). The focus of the research should be clear and aligned with IPA values. Whether I managed to do this or not, is hard for me to say. Nevertheless, I can say that throughout the entire research process I tried to maintain awareness of these principles through a reflective research approach.
- b. Appropriate data from appropriately selected participants should be collected (Larkin and Thompson, 2012). In the context of this DBA project, this meant that participants were selected for their ability to richly describe their personal lived experiences of entrepreneurial failure in the health-tech industry. I believe I managed to do this and that I was able to provide a detailed, nuanced account of participants' experiences that included both descriptive and interpretative levels of analysis. In line with IPA quality guidelines, I did not select participants based on an effort to reach a predetermined sample size or for the purpose of generalisability (Miller et al., 2018) but adhered to the idea that 'less is more' in IPA research and that idiographic focus (attention

to the particular) balanced against a more or less homogeneous sample (i.e. the experience that is shared) prevails in IPA.

- c. Researchers' engagement with participants is a key element of any IPA study. Smith (2011) indicates that researchers must develop rapport with participants and engage with them through skillful and respectful interviewing (Miller et al., 2018). The interviewing skills that are needed for IPA data collection, can only be obtained through researchers' practice and experience, hence sufficient training and competence must be acquired before progressing to direct interactions with research participants. Here, I can only acknowledge that I am a novice qualitative researcher and that perhaps I did not possess the skills and experience required for conducting IPA interviews. However, in line with recommendations by Miller et al. (2018) I scheduled a pilot interview and used the feedback before I moved on to conducting 'real' interviews with participants. Having said that, I must admit that it would have been better to conduct at least two pilot interviews, but this was not possible as I struggled with finding participants in the first place and I had to deal with time constraints as well.
- d. When analysing the data, researchers should develop themes based on prevalence and relevance and should be transparent about the decisions they make throughout the analytic process (Miller et al., 2018). It is very important in IPA that the themes are profound and adequately supported through participants' accounts, hence this must be demonstrated. Smith (2011) argues that researchers must display the complementary qualities of both rigour and "interpretative flair" (p. 23). The former requires attention to process (including both analytic and reflexive components) while the latter means that interpretative comments, that are plausible and persuasive, should be included in the discussion of each theme. For this DBA project, I tried to follow the guidelines for data analysis, laid out by Smith et al. (2009), Cope (2011) and others, while maintaining focus on originality and practical relevance.
- e. For making sense of the analysis, appropriate engagement with theory should be demonstrated (Larkin and Thompson, 2012) and a balance

of convergence and divergence should be represented in the findings (Miller et al., 2018). This should all be presented in a way that demonstrates consistency and transparency, with attention to detail and credibility (Larkin and Thompson, 2012).

- f. Finally, Smith et al. (2011) state that good IPA research should present interesting and enlightening findings. In my opinion this can hardly be considered a quality criterion and is certainly not objective. Still, I think I understand what Smith means and I note that I strived to present insightful findings while being open about my ideas of their contribution and originality.

In summary, Smith's (2011, p. 24) quality criteria for IPA research contain "a clear focus", "strong data", "rigour"; "sufficient attention to elaboration of each theme"; "analysis that is interpretative, not just descriptive"; "analysis that points to both convergence and divergence"; and "careful writing". Although I must adopt a humble position as a novice researcher and acknowledge my lack of expertise and experience with IPA, I hope to have adequately met most of the quality criteria.

#### **4.10. Ethical Considerations**

In accordance with guidelines provided by Bryman (2008) and Bryman and Bell (2011), ethical practice in this study revolves around the prevention of harm to participants, informed consent and anonymity. As stated by Smith et al. (2009, p. 53) "ethical research practice is a dynamic process which needs to be monitored throughout data collection and analysis" and "qualitative research requires sustained reflection and review."

Failure is a sensitive issue and simply talking about it might constitute harm to participants. Avoiding harm was therefore a key ethical principle of this study. Harm is a broad concept and can entail various facets (Bryman, 2008). The challenge of this particular study was that talking about failure evoked negative emotions which could cause stress and emotional harm to participants. Whilst

these emotions were hard to avoid and moreover, of great interest to this study, I did not want participants to have an uncomfortable or disturbing research experience. The extent and potential harmfulness of participants' feelings during the interviews, are hard to determine but participants knew that we were going to talk about failure, they had given their prior consent and were given the opportunity to pause or stop the interview at any moment. As a qualitative researcher one can only be respectful, empathetic and considerate towards participants (Cowles, 1988; Bryman and Bell, 2011) and that is what I tried to do. Participants verbally confirmed that they had experienced the interviews (and occasional follow-up discussions) as an interesting exchange, which is exactly what I aimed to achieve.

With respect to informed consent, participants had given this in writing prior to the interviews (an example can be found in Appendix 1.). In the consent form it was explained what to expect from the interview i.e. the purpose of the study and the topics to be discussed. Smith et al. (2009) mention that especially in IPA research, informed consent must be gained not only for participation in data collection "but also for the likely outcomes of data analysis" (p.53) i.e. the inclusion of verbatim extracts in the thesis and potentially in published articles. The issue of consent was also revisited at the start of the interviews, "with specific oral consent being sought for unanticipated sensitive issues" (Smith et al., 2009, p. 53).

Finally, and this relates strongly to the sensitivities around venture failure, the right to privacy was very important to participants as they talked about painful, emotional experiences that impacted both their business and private lives. This was done through anonymisation of all participant names, documents and any references that might potentially reveal true identities of persons and companies. Furthermore, the data was managed in a way that minimises privacy risks (i.e. no storage on data clouds but only on the researcher's password-protected external hard disk) and will not be made available to others.

#### **4.11. Summary**

This chapter addressed the research philosophy and methodology of this thesis. The researcher's epistemological and ontological position is acknowledged and the link to a qualitative research approach in general and IPA in particular, is made. The latter is substantiated with an explanation of the nature of IPA and its suitability to this research that focuses on the phenomenon of venture failure in a particular business context, and how this is experienced and interpreted by research participants. Next, it is discussed how participants were selected acknowledging that this was challenging due to the sensitive topic under study. Subsequently, with reference to IPA guidelines, methods of data collection and analysis are elaborated, followed by an account about the role and perspective of the researcher, IPA quality criteria and ethical considerations.

The next chapter presents the research findings, consisting of phenomenological accounts of participants' experiences as well as analytical discussion and interpretation.

# **5. FINDINGS AND ANALYSIS**

## **5.1. Introduction**

This chapter presents both a description of findings and their interpretative analysis. It is the result of my efforts to make sense of participants' stories. In IPA terms, it is my interpretation of participants' interpretations of their lived experiences of venture failure. Applying an interpretative phenomenological approach required working through multiple levels of analysis as described in the previous chapter, and moved from constructing, de-constructing and clustering intra-case themes to the identification of emergent cross-case, superordinate themes. The superordinate themes reflect a synergistic process of description and interpretation and aim to have captured and reflect an understanding (Smith et al., 2009). The theme titles relate to the essence of participants' accounts, as interpreted by the researcher but still intimately connected to what participants said.

Through IPA data analysis, described in section 4.7., four recurrent superordinate themes emerged from the data namely 1) early-stage optimism; 2) aftermath effects of failure; 3) resuming life and 4) working in the healthcare industry. I present these in a logical, orderly sequence and provide evidence from each participant to support each theme (case within theme, as outlined by Smith et al., 2009). A summary of superordinate themes is provided in Table 5.1. A worked example of the final structure of one superordinate theme can be found in Appendix 3.

As the aim is to explore the impact and outcomes of failure, a detailed consideration of causes is beyond the scope of this thesis (in line with Cope, 2011). The causes of failure, however elaborated briefly by most participants (see Table 4.1 – Participant Profiles) and very diverse in nature, did not

emerge as a common cross-case theme, partly as a result of the research focus chosen. This work's focus on studying the consequences of failure and the underlying processes that shape them, allows for analysis that draws on and contributes to theories related to aftermath effects, personal recovery from loss and long-term outcomes (Ucbasaran et al., 2013). Furthermore, as pointed out by Mueller and Shepherd (2016, p. 458) "much of the previous work on entrepreneurial failure has focused on deciphering the reasons for the failure", while this thesis attempts to generate an understanding of the holistic failure experience among entrepreneurs. Nevertheless, in moving beyond the causes of failure the research complements strategic, organisational and managerial perspectives on business failures (Cope, 2011, Ucbasaran et al., 2013).

The following sections explore entrepreneurs' perceptions of the early stages of their ventures and then proceed to examine the immediate negative effects of failure, how participants recovered and what it is like to have a venture in the healthcare industry. Each superordinate theme is presented in a descriptive manner, establishing the phenomenological core of entrepreneurs' accounts, based on transcript extracts and staying as close as possible to participants' narratives, subsequently followed by my analytical interpretations. This means that, in line with other IPA studies on entrepreneurial failure (Cope, 2011; Heinze, 2013), an introduction and description of each superordinate theme is immediately followed by analysis (including a link to extant theory) and interpretation.

In order to 'forge' a full narrative account that is comprehensible to the reader, whilst providing essential analytical and hermeneutic information, I present each superordinate theme in a separate section with titles that best reflect my interpretation of the core elements of participants' narratives.

	<b>Early-stage Optimism</b>	<b>Aftermath Effects</b>	<b>Resuming Life</b>	<b>Working in the Healthcare Industry</b>
<b>Annette</b>	Anxiety rather than optimism	Heartbroken	Taking a different path	Uncertain; Complex
<b>Dieter</b>	Golden opportunity	Strong emotions; financial disaster	Fighting back	Challenging; Loving it
<b>Erik</b>	Superior product	Social isolation	Still struggling	Complex; Frustrating; Rewarding
<b>Jan</b>	A solution that everyone is waiting for	Feeling betrayed	Stick to what I am good at	Calling is helping patients
<b>Ludo</b>	Living in a bubble of optimism and success	Sadness; Feeling excluded	Started a new venture	Plenty of opportunities
<b>Matthieu</b>	Living the dream	Feeling ashamed; financially broken	Recovery of self-belief; relying on experience	Frustrating; Rewarding
<b>Peter</b>	Improving the health system for all stakeholders	Strong emotions; Stigma	A well-paid wage slave	Complex; Frustrating

**Table 5.1** – Cross-case Superordinate Themes

## **5.2. Entrepreneurial Optimism: Curse or Blessing?**

The findings indicate that optimism (whether realistic or not) played a big role among participants when starting up their new ventures. Generally, with one exception only, participants were very enthusiastic and optimistic during the pre-venture and early stages of their ventures. Most of the participants indicated that optimism is what kept them going and that it helped a great deal with going the extra mile, with getting things done. This is in line with research that states that optimism is normal and essential to move forward (Sharot, 2011; Coelho, 2012).

This is not to say that optimism was necessarily unbridled and that the participants were not aware of the risks of starting a new company. However, *“positive energy and passion fueled the belief in success”*, as Matthieu

expressed. Erik, Jan and Peter were very convinced of the uniqueness of their offering and firmly believed in the probability of being successful, mostly based on just that. Erik illustrated this by saying that *“the product was superior compared to any other solution in the market [ ] this was acknowledged by pilot customers [hospitals] and therefore I was super excited and felt I had hit the jackpot [ ] a great time was about to begin”*.

Five out of seven entrepreneurs indicated that they got very energised by the prospect of setting up a successful business and were sincerely excited about the opportunities in the market. Seizing market opportunities and being thrilled about the opportunity to disrupt the market especially drove Ludo and Dieter. The latter mentioned: *“things had worked out well for me when I could sell my previous company and I would be stupid not to go after that fantastic opportunity [ ] I was very excited [ ] it was as if the hen with the golden eggs was presented to me”*.

Unlike most other participants, Annette did not indicate she was ‘super excited’ (a term used by many entrepreneurs) nor thrilled by the market opportunity she spotted. Her motivation to start her own business was more or less pragmatic. Although she believed in herself and in her idea, she indicated that it was logical for her to take the step. She simply saw a need for her services and thought she could leverage her professional experience. In her own words: *“hey, it just made sense to do it [ ] people in my environment had told me many times I would be great at it, that there was a need for it...and I thought: well, why not give it a try”*.

Most entrepreneurs talked about the need for presenting their ideas to investors in order to obtain funding for their ventures. They indicated that it was extremely important to not only present a compelling value proposition but also to present themselves in the best possible way. Some entrepreneurs (e.g. Peter, Dieter) had done this before and knew the ropes. According to Peter and Dieter, investors look right through ‘bullshit stories’ and try to find out as quickly as possible whether the entrepreneur is genuinely convinced of his business idea. If the entrepreneur does not disseminate optimism and great enthusiasm, investors tend to have their reservations and are likely to lose

interest. Peter indicated that *“this is a game that the entrepreneur must understand”*, and that mastery is required. Jan indicated that he felt uncomfortable presenting his product to a venture capitalist and said that he could not be himself. What is interesting about this, is that it seems as if entrepreneurs are required to display a certain behavior, namely being extremely confident and optimistic. Two entrepreneurs (Jan, Matthieu) said that this impacted their belief in success although for Matthieu it felt encouraging while for Jan it felt uncomfortable.

Some of the participants shared documentation that gave an indication of the way they presented their new ventures to potential customers, investors and other stakeholders. This included presentations, graphics, videos, brochures and leaflets. Essentially, these documents were used to convince customers and stakeholders. Although extensive textual analysis was out of the scope of this research, generally, these documents painted a very positive picture of the new ventures. Rather than focusing on value propositions, market analysis, customer segmentation and other elements that are usually part of a business plan, most documents that were shared, were more about promotional visual storytelling than focusing on (expected) tangible benefits of the product or service. For instance, Peter and Ludo stressed the importance of telling the business story in a compelling way and indicated that working on presentations, videos, animations and other documents also reinforced their own belief in success. Ludo indicated that he was convinced that working with a digital communications agency led to early customer successes and that he *“was living in a bubble of optimism and success”*.

When comparing accounts of individual participants, the findings show that all of them talked at length, and with great enthusiasm (except for Annette), about the early stages of their ventures, in most cases without being asked explicitly by the interviewer, and that next to using terms that relate to entrepreneurial optimism (e.g. ‘energy’, ‘excitement’, ‘golden opportunity’, etc.), most participants also elaborated about their motivations to start a new venture. The narratives of the participants illustrate that these motivations did not just consist of common business objectives but also idealistic considerations that

relate to the purpose of supporting or improving healthcare. Especially Jan, Matthieu, Ludo and Erik felt very strongly about this and indicated that this is what drove them, and that it encouraged them to give everything they got. They indicated that they could not have done it without being enthusiastic about their business ideas and being optimistic about the future of their ventures and how it could help improve healthcare. This was best illustrated by Jan:

*“Helping people is what I do, it’s what I’ve always done and will always do. What else could I do? I think it’s why I’m here [ ] My product is great, my patients benefit from it...yeah, that’s what made me optimistic, that’s why I did it, err, I mean that’s why I wanted the device to be available to everyone. I believed in it, it’s what made me tick”.*

Whilst Jan was very passionate about helping patients and convinced about the features and benefits of his product (that was invented by him), findings show that other participants (i.e. Annette, Peter, Dieter, Matthieu) had a more abstract kind of idealism that consisted of the ambition to improve efficiency in health systems. Dieter commented:

*“I was very driven to change the way information was exchanged between ALL [emphasis] stakeholders in healthcare...my God, there is so much room for improvement, we need to make healthcare future proof [ ] Nothing could stop me, I just had to do it, the omens were good.”*

Although ambitions along the lines of ‘improving healthcare’ seem quite bold for small entrepreneurs, the findings show that most participants were truly convinced that they could make such a contribution to healthcare, that it inspired and incited them to start their health-tech ventures, and that it filled them with great enthusiasm and optimism.

When talking about the birth and early stages of their ventures, most participants expressed excitement and optimism. When I asked whether they had ever considered the possibility of failure, the sparkle in their eyes turned

into a grave expression (all participants except Ludo who appeared indifferent). Generally, participants indicated that they had prepared the start of their companies quite well (e.g. Ludo: *'I did my homework'*) and that they were aware of the risks. Dieter said that he felt confident but also prepared alternative scenarios in case things would not work out as well as anticipated. However, he did not anticipate the speed of the downturn, it caught him by surprise, and he felt everything was going wrong at the same time. Others were fully convinced that their companies were going to be very successful and, while being conscious of risks, dependencies and the complexity that is inherent in the healthcare industry, optimism prevailed, and they had more or less neglected the possibility of demise. Matthieu expressed this as follows:

*'Well, you know, I was full of confidence and I thought: why would it go wrong? I would not have given up my old profession if I wasn't absolutely convinced that my company was going to do well. And why not? My idea was solving many issues...well, I never thought I was going to be a Don Quijote, fighting with the windmills...you know?'*

The contrast between aftermath experiences (discussed in paragraph 5.3.) and entrepreneurial optimism that was predominant among participants during the early stages (in some cases this phase lasted several years and was fueled by early successes) is interesting. Obviously, the degree of optimism varied between entrepreneurs and one participant (Annette) never even felt the thrill of starting a venture but felt anxious instead. However, based on the stories of the majority of participants, it became apparent that entrepreneurs truly felt very optimistic about the probability of success, often also mirrored in their presentations and other documents that were used in the early stages of their ventures. Furthermore, participants never really anticipated the occurrence of failure but rather put all their energy in pursuing their dreams.

Whether entrepreneurial optimism was unrealistic and actually contributed to failure, was not confirmed by any of the participants. On the contrary: most participants claimed to be experienced business people who had carefully prepared themselves before embarking on their venture journeys. For

example, Ludo indicated that he *“never rushed into decisions and had made an extensive plan”* while Peter said *“I knew what I was doing. I had been through it all before and could keep the big picture in mind. Hey, still, you’ve got to believe in it, don’t get me wrong”*

Finally, findings demonstrate that most participants were somehow ambiguous in their accounts concerning their experiences of the pre-venture and early stages of their companies. On the one hand, they underlined their enthusiasm and optimistic expectations, not just in words but also through non-verbal communication, and on the other hand, they attenuated their own signals of entrepreneurial optimism by stating that, in retrospect, they acted rather rationally, had thought things through and had prepared for less beneficial scenarios.

### **5.2.1. Analysis and Interpretation**

Whilst overoptimism has a predominant role in empirical studies on cognitive mechanisms among entrepreneurs (Coelho, 2012; Cossette, 2015), the focus has mainly been on understanding its relation to entrepreneurial success (Kuntze and Matulich, 2016) and overoptimism (belief in future success) and overconfidence (self-esteem) as intrinsic traits of entrepreneurs (Kahneman, 2011; Ng, 2015; Cain et al., 2015).

Based on the findings, I suggest that extant views on entrepreneurial optimism, more specifically the optimism bias, and the role it plays in venture creation, might be too one-dimensional. Although participants’ narratives confirmed common entrepreneurial pitfalls, in entrepreneurship literature often described as symptoms of overoptimism and/ or overconfidence, such as poor assessment of market attractiveness, overestimating one’s own competencies and abilities, and underestimating market complexity and resources needed (cf. Ucbasaran et al., 2010; Cossette, 2015; Kuntze and Matulich, 2016; Invernizzi et al., 2017), the research shows that, in the case of the health-tech entrepreneurs interviewed, there were other factors that fueled a firm belief in venture success. A common denominator found among all participants was their passion for healthcare, varying from a genuine desire to help patients to

making a contribution to improving healthcare. Three out of seven participants had a background in public health and four out of seven had prior health-tech industry experience. Dieter was the only one without prior healthcare experience but deliberately chose to enter the healthcare IT market, out of other options, because he wanted his new venture to serve a social goal (rather than just business growth and making money) and also wanted his new venture to be meaningful to him personally. My interpretation of participants' drive to do something for the greater good, in the context of entrepreneurial optimism, is that it was real and formed an intrinsic motivator to be successful. To put it even more strongly: failure was not an option (as stated by Jan, Dieter, Matthieu and Erik), and this impacted the level of dedication, commitment and belief in good results. Although some participants indicated that their aspiration to improve healthcare was the most important reason to start the venture in the first place, the findings do not suggest that this was mutually exclusive and necessarily in conflict with common business objectives. Nevertheless, the research reveals that among health-tech entrepreneurs, additional factors contribute to optimism. Whether the frequency and extent of unrealistic optimism is more common in health-tech entrepreneurship, cannot be said, but the findings suggest that there is a significant additional dimension that should be considered when discussing failure among health-tech entrepreneurs.

The environment in which entrepreneurs act, both encourages and adopts unrealistic optimism (Katz, 1993; Coelho, 2012). What is interesting about the research findings, is that some participants (i.e. Jan, Peter and Matthieu) indicated that they felt pressurised by investors to overstate the outlook of their ventures. Whilst Jan and Matthieu indicated that they felt comfortable with that, Jan did not. My interpretation is that Jan felt very unhappy with the situation because he was not familiar with the rules of the game. Also, the dependency on outsiders made him feel uncomfortable. He would have preferred to keep full control over what he considered to be his project ('his baby', as he called it). Although Matthieu and Peter said that they were very well aware of the necessity to work with investors and that they felt comfortable with that, some of the comments they made when discussing the aftermath effects of failure,

indicate the contrary and can be interpreted as mistrust towards investors and their presumptuous optimism. Especially in the pre-venture or early stages of the new company, it looks as if entrepreneurs regularly need to act optimism rather than genuinely believe in success.

Further to the above and derived from the ambiguity in participants' accounts on early stage optimism, I cautiously suggest that faith in positive outcomes was perhaps not as strong as participants wanted me to believe. My interpretation is that rather than keeping up appearances, this had more to do with a sense of embarrassment. I think that it was somehow awkward for participants to talk about the early phases of their ventures and the optimism they once disseminated. Without any doubt, participants were genuinely excited and optimistic about the emergence of their ventures, but they were aware that I knew that their ventures failed and that we would be discussing this. Perhaps, during the interviews, they did not want to come across as naïve when talking about their early stage excitement and belief in success.

The research findings indicate that participants did not see a direct relationship between early phase optimism and failure of their ventures. This is not strange because it would mean acknowledgement of unrealistic optimism. Participants had a strong desire to start their businesses and as Kuntze and Matulich (2016) argue, this may lead to cognitive biases, particularly overestimation of future success. Although most participants appeared to be aware of the risks, they never really anticipated the possibility of failure, thus had not prepared mitigating measures. Here, my interpretation is that during the interviews participants either felt ashamed of failure (Annette, Matthieu, Erik) or had a different conceptualisation of failure (Ludo, Peter, Dieter). The former group of participants perceived failure as personal failure while the latter group owed it more to bad luck or unforeseen circumstances. The research findings do not provide insight in the direct causal relationship between entrepreneurial optimism and venture performance, for the particular cases investigated, but merely suggest that the extent of early stage optimism impacts individual experiences of failure. I argue that the contrast between entrepreneurial

optimism and post-failure experience is larger among entrepreneurs who blame themselves for failure.

Finally, developing a deeper understanding of differences between novice and experienced entrepreneurs in relation to their accounts about the early stages of venture creation, several authors such as Politis and Gabrielsson (2009) and Mueller and Shepherd (2016) argue that entrepreneurs with previous start-up experience have a different attitude toward failure and arguably a different stance toward the causes of failure and their own role in this. Peter and Dieter, the only entrepreneurs in the research sample with prior entrepreneurial experience, clearly stated that they were not overoptimistic but rather could draw on their previous experiences which made them familiar with the processes around starting a new business. This seems to contradict with research by e.g. Landier and Thesmar (2009) who argue that experienced entrepreneurs, who had at least one prior business, are more optimistic than novice entrepreneurs. My interpretation is that although experienced entrepreneurs might be savvier and perhaps more aware of pitfalls, they do not appear to be more realistic than other entrepreneurs. This study shows that experienced entrepreneurs are certainly not less impacted by failure, hence the contrast between early stage optimism and effects of failure is not bigger than among other entrepreneurs who had established their first venture.

### **5.3. The Aftermath**

If there is one thing that the findings incontrovertibly demonstrate, is that all participants suffered heavily from failure of their ventures. The nature and extent of hardship that entrepreneurs experienced, varies per person. This section is titled 'The Aftermath' but it must be said that this superordinate theme is complex and comprehensive, especially when compared to the other superordinate themes that emerged from the data. This complexity lies in the diversity of associated sub-themes (subsequently called 'spheres') and above all, in the way participants spoke about the detrimental effects of failure and how these are interconnected. The research shows that aftermath effects are

hard to categorise, just as participants did not clearly segregate their aftermath experiences but rather skipped from one subject to another. Individual accounts were certainly not straightforward, charged with emotions and pain, and often contained inconsistencies and seemingly unrelated cross-relations. Nevertheless, three major spheres within the wide spectrum of aftermath effects of failure could be identified, namely emotional effects, financial effects and social effects. Each of these spheres also contain their own set of sub-categories.

Table 5.1. shows that emotional effects were considered as the main aftermath effect by six entrepreneurs (all except Erik), or rather, were recalled most. Out of these six participants, three reported that next to emotional suffering, they were equally affected by financial consequences (Dieter and Matthieu) and social effects (Peter). Erik indicated that for him, the social effects of failure were most impactful.

Table 5.2. contains a selection of categorised verbatim transcript extracts, showing quotes that are illustrative for each aftermath sphere identified.

	<b>Emotional</b>	<b>Financial</b>	<b>Social</b>
Ludo	"Frankly, I couldn't believe it was over. [ ] I felt numb, in shock, like my senses did not work anymore [ ] I remember my wife had to tell me how I spent those first days after I got the bad news. [ ] Gosh, it took quite a while, such a strange feeling, I had never felt something like that before. It still makes me sad, when I think about it."	"Well, it's not like I was immediately in financial trouble. I was okay privately; thanks to the legal setup of the company I had no personal liabilities. [ ] Well, err, the problem was...it took so long, it's not pleasant not having an income, you know. My wife got worried too, the bills kept coming in, you know."	"The medical device industry had always been my world, and then with my own company I could focus on the things that I like best. The bankruptcy destroyed all of that..hm, when I think about it, I get a bit angry again at some people, you understand? I was out of the medical industry all of the sudden, I lost face with customers and would not get a chance to get back in again."
Jan	"Yeah, what can I say? I'm a big boy, you know...but I just was knocked out...not because of the business, more because of the way it went...I put confidence in people and they betrayed it. Why? I still don't know. It was devastating. It was not meant to be, I don't know. Such a bad experience.[ ] ...and it annoys me that the product is not available for everyone, awful..."	"The investment was significant, of course, but it did not cost me a lot of money personally. The investor provided the money for getting ready to go to market. You know, money is not so important. That's not why I did it. I'm okay, I do the work I love, no problem."	"Don't forget that I worked on the product with colleagues, they were kind enough to help me. As a matter of fact, they were quite eager to help. They also believed in it. [ ] Yeah, now I don't talk to them very often anymore...I think there's something...maybe they see me as that guy that wanted to make money. I'm not, I think they know. But it's a small world, you know."
Annette	"Things go as they go, what can I say? [ ] I loved what I was doing...of course it was horrible, it was my kind of thing, I enjoyed it, well, yes...I felt heartbroken, err...what a deception, did not know what to do, what to feel anymore, or something like that, I think."	"The thing is that it did not go as well as I hoped...always uncertain, can I pay the bills or not? Always chasing customers for getting the invoices paid. [ ] Well, it did not work for me financially, not a lot of difference between the time the company existed and the time afterwards."	"Pff, so many things have changed. I was always in my network. Not anymore now...I don't care. [ ] I think what hurt me most was that some people who are dear to me, somehow lost confidence in me, yeah, that I could not do it, that hurts, you know. [ ] Yes, I lost some friends, well, yes, it's a pity."
Dieter	"I thought: shit, this cannot be true! What's going on here? [ ] I was very pissed off, sad, ashamed, pff, I can only remember it was like a rollercoaster of emotions, I wasn't myself for a long time.. what shall I say, it's not something I want to think about anymore."	"Yeah, it was like a bombshell. A disaster...yes, financially as well. [ ] Had I known it would go like that... Hm, the money down the drain. Yeah, a lot of money. How was I going to pay the debts? The sharks were circling around me, you know. It was very hard."	"Okay, I will be honest to you, well, perhaps it was because of my own mood swings, but you know...err...yes, there was damage, I mean...in business relations, some personal relations, not so good. But what can you do? I just tried to repair it. Not easy...of course not."
Matthieu	"Now what? It's what I thought...all the time...I could not think straight anymore. I did not know what to do with myself. I went to my doctor, well, not that he could do a lot, but yeah, I thought it was good to look for help. I was also angry, I don't know, confused also."	"Well, it all came suddenly at the same time, the shock, the financial troubles. Horrible! [ ] I did not finance everything myself, some came from my investor, some from my family...my parents...that was difficult, how to tell them? How to solve it? Well, I was financially broken, what can you do?"	"I felt I screwed up, in a bad way, you understand? Can you imagine my family was not happy? They were bringing up old issues...I don't know. My girlfriend was not happy either, well, always supported me, but still, you feel there's something."

		Well, back to work, you know, make some money.”	
Peter	“I am not going to lie to you: it was very painful. I gave it all I got...blood, sweat and tears, you know, I fought very hard. I was bloody angry. I couldn't stand people talking rubbish...I was exhausted... [ ] For me, the worst thing was that it just didn't make sense, I could not get my head around it. [ ] Now, I think I was a bit in a dark place.”	“Oh, well, I could keep my head above water, you know, not too bad. You've got to sort out your finances, you know...it's a bit like a divorce. [ ] I'd rather not discuss this, is that alright?”	“You're trying to establish something, but you can't do it all alone...I felt let down, people didn't keep their word...worse, they twisted reality, I served as a scapegoat. Well, that harmed my reputation. It's a small world, I'm sure you understand. I wasn't part of it anymore. When I reached out to people, few months later, I felt I was frowned upon.”
Erik	“I was proud of the company, we built it, customers loved it, it was successful...yeah, when everything collapsed, I don't know, it was like I had no ground beneath my feet anymore, all gone, I felt powerless. [ ] I was depressed...also frightened of the future.”	“That's a bit double-sided, sure, it's awful not having a good income anymore. On the other hand, I never wanted to invest my own money in the company, it was not needed. So, yeah, I guess that's a blessing in disguise, I don't know.”	“The company was everything to me. I was always there, too often according to my wife [laughs] , but I enjoyed working. We live in a small village, many former colleagues also live there but things are not as they used to be. I don't hang out with them anymore. I have been avoiding it. My social life is limited, just family. Yeah, maybe that's the worst of all.”

**Table 5.2 – Categorized Verbatim Excerpts regarding Aftermath Effects**

In terms of emotional consequences of venture failure, participant experiences indicate that these are inextricably linked to financial and social consequences. However, many participants indicated that losing their business alone, already caused psychological hardship, varying from sadness to an initial state of shock, prompted by disbelief (Ludo, Dieter) and despair (Jan, Annette and Matthieu). The research findings indicate that negative emotions associated with losing one's business, are part of a complex process of coping and sensemaking. When talking about the emotions they went through, most participants mainly addressed the initial state of shock, shortly after business failure occurred. Based on the accounts of the entrepreneurs interviewed, strong feelings of disbelief relate to the difficulty of accepting failure, especially after all the hard work done, and all the trouble that participants had gone through in their efforts to establish a new business. Many entrepreneurs (e.g. Ludo, Dieter) could simply not believe what was happening to them and generally, feelings of despair went hand in hand with

fear of the future. Most entrepreneurs felt overrun by negative emotions and needed quite some time before they could start coping with all the consequences of failure. Interestingly, some entrepreneurs mentioned that they felt their dream of contributing to better healthcare was shattered and that this contributed to their despair. For instance, Jan felt intense sadness because he realised he would “not be able to help patients around the world” with his medical invention and Matthieu indicated that the company was not only his “personal dream” but above all, a “*genuine attempt to change something in healthcare*” and that his breakdown was partly caused by the awareness of not being able to continue his pursuit to play a part in this.

Dieter, Peter and Matthieu also recalled anger as a dominant emotion they experienced. To illustrate this, Peter indicated that he was going to make sure that “*they [his company’s shareholders and investors] were going to regret this*” and that “*they were going to get theirs*”. For the latter three entrepreneurs, the experience of failure was still rather fresh at the time of the interviews and this might explain that strong feelings of distress and anger existed simultaneously.

Rather than feeling angry, Jan mentioned that above all, he felt betrayed by the venture capitalist he worked with. In Jan’s own words: “*Maybe I trusted them too much...I don’t know what happened, it all looked very promising. I think I was not so important to them. Just one of many start-ups..for me it meant everything. They abused me, they fooled around with me. I felt small.*”

Further to the emotional pain experienced as an immediate result of business failure, participants also suffered financial consequences, either with only a moderate impact or far-reaching financial complications. The extent of financial suffering impacts participants’ emotional experience of failure, e.g. in the case of Matthieu, funds did not only come from a private equity investor, but also from his own family, which caused a lot of stress and feelings of shame and guilt. The latter also had its impact on social relations. The example of Matthieu shows that all aspects of the entrepreneur’s life are affected and

that these are strongly interconnected. They cannot be seen as isolated experiences and have a reinforcing effect.

In terms of social effects, findings show that these are quite diverse and are especially impactful in the longer term. Almost all participants indicated that failure had an impact on their professional network. Ludo, Jan, Annette, Dieter and Peter all talked about professional exclusion, a phenomenon not easily demarcated, but experienced by participants as painful, frustrating and humiliating. For instance, Dieter, Annette, Ludo and Peter elaborated on the impact that venture failure had on their professional relationships within the healthcare industry. Interpretation and the extent of impact varies among entrepreneurs (e.g. in Peter's opinion his reputation in the health-tech industry got damaged as a result of stigmatisation, while for Annette it was more about, in her own words, *"losing the connections, losing the relationships and not being part of something anymore"*). Jan, compared to the other participants, experienced social aftermath effects in his professional network somehow differently. He indicated that the relationship with colleagues in the hospital where he works, and relationships within his medical academic network, have changed (as illustrated in Table 5.2.).

Further to the adverse social effects in a professional context, all participants also suffered from disturbed relationships in private life. Especially for Annette, Matthieu and Erik these effects were (are) very profound. Annette found the preconceptions and "good advices" of some people in her personal environment, very disturbing. Matthieu indicated he felt being "stuck in a vicious circle of misery" and that there was quite a bit of tension in the relationship with his parents and that he felt that even his girlfriend somehow lost confidence in him, although she never told him explicitly. For Erik, social consequences of venture failure were very impactful and still ongoing at the time of the interview. This is because Erik lives in a small community in Denmark, where the company was based and where some of Erik's peer entrepreneurs (co-founders of the company) as well as former colleagues reside. Because Erik feels ashamed of the company's failure and finds it very awkward to run into former peers and colleagues, he has been trying to avoid

them. This has caused social isolation. At the time of the interview, Erik indicated that he was not only considering his professional future but perhaps also a change in his private life, i.e. moving to another place.

### **5.3.1. Analysis and Interpretation**

Several studies address the deep impact of failure on various aspects of entrepreneurs' lives. Despite different interpretations, focus and categorisation of aftermath effects, generally, entrepreneurial research distinguishes psychological, economic and social consequences of business failure, which is very much in line with the findings of this research. For instance, the work by Ucbasaran et al. (2013) highlights the three aforementioned categories while other authors either refer to additional, distinct aftermath spheres, such as physiological costs of failure (Singh et al. 2007; Cope, 2011; Jenkins et al., 2014) or put emphasis on single aspects such as the impact of failure on entrepreneurs' personal social relationships (Heinze, 2013) or stigmatisation (Cardon et al., 2011; Singh et al., 2015). Empirical entrepreneurship studies have demonstrated that business failure is a traumatic event that deeply affects various interrelated aspects of entrepreneurs' lives (Singh et al., 2007; Cope, 2011; Heinze, 2013).

What emerges from the data is that aftermath effects as experienced by participants can indeed be categorised in emotional, financial and social effects. However, my view on this is that some aspects, such as physiological effects, simply remained unaddressed during the interviews or could be put under another sphere. For example, Matthieu indicated that he needed to see his GP but did not elaborate on the type of complaints he had, which could be either mental, physical, both, and most probably interrelated. Furthermore, the findings reinforce that aftermath spheres are intertwined. Especially emotional impact and social effects are closely associated, as is best demonstrated by the cases of Matthieu and Erik. Below, the three aftermath effects that emerged from the data, are further analysed and interpreted.

### **5.3.1.1. Emotional Impact**

In literature, the psychological cost of failure is reported as the most impactful and emotionally draining aftermath effect (Cope, 2011; Jenkins et al., 2014). The findings indicate that participants suffered from severe negative emotions and they described the emotional impact as the hardest part of venture failure. The accounts were intense and during the interviews quite some time was spent on recalling emotional hardship. Some entrepreneurs (Ludo, Dieter, Annette, Peter) even spent a lot more time talking about the emotional impact of failure, than on the other two aftermath spheres identified. Because it was difficult to derive meaning from analysis of the verbatim transcripts alone, attention was also paid to notes about non-verbal communication such as facial expressions and body language of participants and how these could be interpreted in the context of this research. Based on this, my interpretation of participants' perceptions of emotional impact, is that their stories only scratched the surface of a deep and complex experience of loss. While I note that (some) participants were not comfortable talking about the emotional impact of failure, the detrimental psychological impact of losing a business clearly came to light. This corresponds with work by Shepherd (2003) who stated that losing a business is akin to the death of a loved one. Shepherd's work was groundbreaking as he linked psychological literature to the field of entrepreneurial failure for the first time. His insights were used later for other studies on entrepreneurial failure by i.a. Singh et al. (2007), Cardon (2011), Cope (2011) and Jenkins et al. (2014) who all underlined the detrimental psychological effects of business failure and how these impact processes of coping and sensemaking. Consistent with extant theory, participants experienced grief as an emotional response to failure (Shepherd, 2003; Shepherd et al., 2009a). The extent to which entrepreneurs felt grief, varies from person to person. Their responses suggest that some participants, e.g. Erik and Matthieu went through a lot more emotional distress than others. Jenkins et al. (2014) argue that this could be explained by appraisal theory. Central to appraisal theory is the idea that an individual's emotional response to an experience depends on his or her individual and subjective evaluation, or appraisal, of the experience (Smith and Lazarus, 1993). This suggests that feelings of grief, are related to individual entrepreneurs' perception of pain and

loss. The greater the implications of loss, the greater the feelings of grief. Although I think this could be a plausible explanation for differences in individual grief experiences, through interpretation of the data, I surmise that there are three additional factors that determine the extent and severity of grief experience among health-tech entrepreneurs namely the way failure is conceptualised by the entrepreneur, the post-failure stage in which the entrepreneur finds him- or herself and the extent to which passion for healthcare was an intrinsic motivation for entrepreneurs.

Research findings bring to light that the concept of failure is not perceived similarly by all participants and it seems as if this impacts the psychological impact of failure. It turns out that this mainly has to do with entrepreneurs' interpretation of failure and whether they blame themselves for it. Some entrepreneurs (e.g. Ludo and Peter) did not speak about failure but rather preferred to speak in terms of 'misfortune'. In accordance with the conceptualisations of failure, as provided by Jenkins and McKelvie (2016), discussed in section 3.5., Ludo's and Peter's cases are in line with the objective and subjective individual-level notions of failure. However, taking an individual-level subjective notion of failure, the personal impact of failure defines individual experience of failure, i.e. the extent of grief experienced. As I did not have the impression that Ludo and Peter were less affected than other entrepreneurs, their individual-level conceptualisation of failure does not seem directly related to the emotional impact they experienced which seems to contradict with the suggestions made by Jenkins and McKelvie. Another example that does not seem to fit with extant entrepreneurial failure research, is the case of Jan whose product was never formally made available to the market. Still, he did have a venture and was able to sell his product to pilot customers. Jan's personal conceptualisation of failure cannot be qualified under either objective or subjective individual notions of failure as outlined by Jenkins and McKelvie (2016). Finally, the entrepreneurs who blame themselves most for failure, namely Annette, Matthieu and Erik, indeed seem to have suffered most from the demise of their ventures. Their individual-level subjective conceptualisation of failure directly relates to the emotional hardship suffered, although I note that was most noticeable in the accounts of

Matthieu and Erik. Annette was less expressive and less explicit in terms of sharing the emotions she went through.

The magnitude and variety of negative emotions experienced, more specifically how these were recalled and interpreted by participants at the time of the interview, could be explained simply by the time elapsed since failure occurrence. The traumatic experience of loss, when following Shepherd's (2003) comparison to the death of a loved one, is complex and multifaceted. In entrepreneurship literature, a lot of attention is paid to coping with failure, learning from failure and how this impacts subsequent venture initiatives by entrepreneurs. What is missing, is attention for the grief process itself. I argue that a better understanding of post-failure bereavement, can help explain individual differences, as observed in this research. A good starting point might be the application of clinical psychology models such as the Kübler-Ross (1969) stage theory of grief which identifies five-stages of grief that enhance understanding of how the average person cognitively and emotionally processes the loss of a family member. The five stages of grief are disbelief, yearning, anger, depression, and acceptance. Maciejewsky et al. (2007) suggest that the five stages are normally gone through within the first six months upon loss and that those who score high on any of the five grief indicators, beyond six months, "might benefit from further evaluation" (p.716). My interpretation of participants' accounts of grief experience, assessed against Maciejewsky's suggestions, and taking into account that participants shared their negative emotions retrospectively, is that disbelief and anger were the most dominant grief stages and there is not necessarily a certain sequence in the grief process, which seems in contrast with the Kübler-Ross model and later empirical examinations of this theory by, amongst others, Maciejewsky et al. (2007). My observation is that participants whose failure experiences are rather recent (Dieter, Matthieu and above all, Erik) expressed stronger emotions. On the other hand, my interpretation is that entrepreneurs who were confronted with venture failure longer time ago (e.g. Ludo, Jan) did not seem less emotional in a retrospective context. Finally, where stage theory of grief would indicate all entrepreneurs to have accepted their losses by now, my interpretation is otherwise. At the time of the interviews, most entrepreneurs

still seemed to struggle, and analysis of their narratives does not point to acceptance of failure.

Through interpretation of participants' narratives on the emotional impact of failure, this research adds to extant theory the experience of venture loss being arguably even more impactful among *health-tech* entrepreneurs as they do not only experience negative emotions over losing their business but also feel pain and remorse over their inability to contribute to improving healthcare. Although findings illustrate that this element of grief was experienced strongest by Jan and Matthieu, it played a role among all participants, as most of them deliberately chose to start a venture in the healthcare industry, an industry close to their hearts. For instance, analysis finds that also Ludo, Annette, Dieter and Erik had a genuine intrinsic motivation to contribute to healthcare, either at system level or with a focus on patient care. My interpretation is that this also means that healthcare entrepreneurs set the bar higher for themselves, they are willing to go to great lengths in their pursuit of success and are all the more impacted when failure occurs.

Especially in social entrepreneurial literature, a nascent field that is growing rapidly (Rawhauser et al., 2019) there are references to intrinsic motivations and altruism among entrepreneurs (Dacin et al., 2011, Cater III et al., 2017) and also, albeit sporadically, there are studies on altruistic motivations among health workers (Cabin, 2008; Burks and Kobus, 2012). The findings suggest that motives of health-tech entrepreneurs are somehow comparable to social entrepreneurs, in the sense that both try to improve people's lives through the introduction of new products and services. Health-tech entrepreneurship signals the imperative to drive social change, and it is that potential payoff, with its lasting, transformational benefit to society, that defines the industry and its practitioners. I argue that it is precisely this motive, that reinforces emotional hardship among health-tech entrepreneurs.

#### **5.3.1.2. Financial Impact**

Although research findings show that venture failure had financial consequences for all participants, for some this was more impactful than for

others. Basically, this has to do with entrepreneurs' ability to absorb these costs in a post failure context (Cope, 2011) which depends on several factors discussed in entrepreneurial literature i.e. a) the magnitude of financial loss/ personal debts (Singh et al., 2007; Cope, 2011; Ucbasaran et al., 2013); b) the extent of personal investments by entrepreneurs (Singh et al., 2007; Cope, 2011) c) local bankruptcy law / personal liabilities (Calogirou et al., 2010; Ucbasaran et al., 2013); d) (lack of) post failure income (Singh et al., 2007) and e) access to capital, either for new entrepreneurial activity (Cardon et al., 2011) or personal loans or mortgages (Singh et al., 2007; Heinze, 2013).

Analysis of the data shows that financial loss, as a stand-alone aftermath effect of venture failure, played only a moderate role among participants, with the exception of Dieter who was "hit hard" by the financial consequences, both in terms of magnitude, the personal financial losses he suffered (i.e. personal investments that had vaporised) and his struggles to make ends meet in the years after venture failure. In short, Dieter suffered heavy financial losses, and this was probably the most detrimental aftermath effect for him.

Compared to most other entrepreneurs, also for Matthieu financial consequences were very impactful but more in relation to social effects he experienced, i.e. the relationship with his parents was under pressure as he borrowed money from them to finance his venture.

As discussed by Ucbasaran et al. (2013), local bankruptcy law can be a determining factor in financial misery experienced by entrepreneurs. Typically, in countries where individual entrepreneurs are not held personally liable for venture debts (depending on the legal set-up) and where there is a social safety net that is 'friendly to failed entrepreneurs (i.e. generous unemployment benefits), individual entrepreneurs experience less financial hardship (Peng et al., 2010). Jan, Annette and Erik, indicated that the financial impact of venture failure was "not too bad" or that their financial situation was "okay". Although not explicitly mentioned by them, and without knowing their exact situation, the favourable entrepreneurial climate in the Netherlands and Denmark, in combination with social benefits, might have eased their financial pain a bit.

Generally, findings show that all entrepreneurs experienced financial losses, or at least did not have an income for some time, but also that financial losses were not extensively discussed during the interviews. In comparison to other aftermath effects (i.e. emotional, social), financial consequences remained rather under-elaborated. To illustrate this, Peter explicitly asked not to discuss financial effects. Ludo's story entails some contradictory statements which makes it hard to determine to extent of financial damage he suffered. As financial aftermath effects can only be interpreted based on participants' accounts of post-failure experiences, it is hard to assess financial impact among entrepreneurs and how they experienced this. Apparently, some participants did not feel comfortable talking about financial consequences, or perhaps felt ashamed.

Although the research demonstrates that financial losses were suffered by entrepreneurs to a greater or lesser degree, a rich and deep analysis of the experience of the financial aftermath, as a single post-failure phenomenon, remains difficult, as it largely depends on the honesty and openness of participants. Nonetheless, I argue that financial effects as a result of venture failure, can be directly associated to psychological and social consequences experienced by entrepreneurs.

#### **5.3.1.3 Social Impact 'Feeling lonely and stigmatised'**

Analysis and interpretation of verbatim transcripts reveals that the social impact of venture failure among health-tech entrepreneurs is profound, complex and manifold, which is very much in line with findings presented by entrepreneurship scholars, i.e. Singh et al., 2007; Singh et al., 2015, Cope, 2011, Heinze, 2013, amongst others, discuss how both personal and professional relationships are deeply affected by venture failure. As social aftermath effects turn out to be multi-faceted and were elaborated extensively by participants, in this study I focus on three elements, based on common narrative features, namely: social isolation, self-stigmatisation and professional stigmatisation as a result of failure.

In terms of social isolation, entrepreneurs all experienced feelings of loneliness, e.g. in the words of Dieter:

*“Well, then there you are, devastated, but also alone...like being alone in the desert... [ ] who can you talk to? I wanted to protect my wife from experiencing all the misery, I could not talk to my friends because, err, well, I must say that maybe I had boasted a bit about the initial success of the company, and discussing my feelings with my business partners, oh no, I couldn't do that”.*

Social isolation in the case of Erik is poignant as in his attempt to avoid running into former peer entrepreneurs and employees, he fell into social isolation and is even considering moving to another place in order to build a new social life from scratch. In his case, he did not feel stigmatised by his professional or personal environment but ended in deep social isolation as a result of feelings of shame and embarrassment. As argued by Singh et al. (2015) self-stigmatisation and social stigmatisation are intertwined concepts. Erik castigated himself and expected negative judgement from his environment, which led to social isolation (cf. Heinze, 2013; Singh et al., 2015).

Other than my interpretation of Erik's case, other entrepreneurs did hardly talk about how their own emotions might have affected social relationships, although implicitly, Matthieu and Annette indicated that they were not feeling good about themselves and that venture failure put a strain on the relationships with their loved ones (i.e. Matthieu felt that his girlfriend “lost confidence in him” and Annette “very often quarreled” with her husband). Cope (2011) and Heinze (2013) indicate that failed entrepreneurs feel strongly responsible for their social environment. This study confirms that the complex and interrelated concepts of pride, shame, embarrassment, self-esteem, self-stigmatisation, social acceptance and social isolation have a profound impact on the lives of failed entrepreneurs. However, as opposed to studies by Cope (2013) and Singh et al. (2015) where entrepreneurs rather explicitly express ‘self-doubt’ and ‘loss of self-confidence’, this study unveils self-stigmatisation as an implicit, subjacent aftermath effect that could only be revealed through

the researcher's interpretation of participants' accounts. Possibly, shame is the underlying explanation for participants' mere implicit expressions of self-stigma which would further reinforce the interrelatedness of emotional and social consequences of venture failure.

While acknowledging the split between self-stigmatisation and social stigmatisation as identified in clinical psychology studies (Corrigan et al., 2010) and Singh et al.'s (2015) work on venture failure stigmatisation which focuses more on stigmatisation as a longitudinal process that already begins when the venture still exists, and where self-stigma and social stigmatisation are closely intertwined, this research shows that the latter is a prominent, recurrent superordinate theme among health-tech entrepreneurs. To be more precise: social stigma of failure among professional relationships and networks (rather than personal relationships) was intensely experienced by most participants. My interpretation is that entrepreneurs lost a sense of belonging due to professional stigma. Ludo, Annette, Peter and Dieter experienced this as being ostracised and were very bitter about it. Ludo and Peter even indicated that this is the main reason that they are no longer active in the health-tech industry, hence the long-term impact for them is very profound. Although Jan was not necessarily stigmatised by professional relationships in the 'business world', he felt he was treated differently by colleagues in the hospital when he resumed his old job as a cardiologist.

Upon reflection of participant accounts, the question is whether the stigma experienced by participants was realistic or perhaps predominantly a result of their own emotions and interpretations. What became clear is that many participants experienced deep frustration and even resentment towards the professional relations they worked with (e.g. Peter felt let down by his stakeholders, Jan despised the venture capitalist he worked with, Matthieu and Ludo were frustrated with clients, Dieter felt "harassed" by his shareholders and investors).

Finally, some participants established their venture together with other entrepreneurs and these relationships got damaged beyond repair. Ludo,

Peter and Erik lost contact with their former colleague entrepreneurs. This is both remarkable and understandable. Remarkable because of the former intensity of these relationships (“we went through a lot together” as Erik put it) and understandable because of the painful association with the failure experience. Although entrepreneurship is often collective (Ucbasaran et al. 2013) and it would be interesting to research the joint responses to failure and its relational consequences among entrepreneurial teams, the focus of this study is on individual experiences of failure.

In sum, this study confirms that the impact of venture failure on personal and professional relationships is multi-layered and consists of various intertwined aspects. Whilst research to date has only revealed the “tip of the iceberg” when it comes to the social costs of entrepreneurial failure (Ucbasaran et al., 2013: p.189 and affirmed by Singh et al., 2015), this study adds to extant literature empirical findings from within the health-tech sector. Individual experiences by health-tech entrepreneurs may not demonstrate significant differences with other entrepreneurs, but I argue that the specific social setting of the healthcare industry plays a role in how entrepreneurs experience social costs of failure. Furthermore, there are clear indications for long term impact, i.e. for four entrepreneurs (i.e. Annette, Ludo, Peter and Erik) the social costs of failure contributed to the decision (whether voluntary or not) to refrain from working in the healthcare industry.

#### **5.4. Recovering from Failure: Life is What You Make It?**

As discussed in the previous section, the immediate aftermath of failure has detrimental impacts on entrepreneurs’ lives. This section addresses whether and how entrepreneurs recover from these impacts and consists of a phenomenological and a hermeneutic part. The phenomenological part is about the lived experiences of participants, and sheds light on how they coped with venture failure and how this affected their lives in a post-failure context. Participants reflected on grief recovery, sensemaking and to a lesser extent, to learning from failure. Although recovery from failure is distinguished as a

superordinate theme on its own, the findings indicate that aftermath impacts and the process of recovery from failure are strongly intertwined. It simply shows that venture failure experience is hard to categorise in a sequential manner (as suggested in section 3.5. of this work). This section provides insights in entrepreneurs' reflective accounts of overcoming failure and the conclusions they have drawn from the experience.

At the time of the interviews, two participants (Dieter and Ludo) were still active as entrepreneurs of which only one in the healthcare industry (Dieter). Two participants returned to their old jobs in public health (Jan and Matthieu), one became an employee of a company not related to healthcare (Peter), one became a lecturer (Annette) and one had not resumed professional life yet (Erik).

The findings reveal that some participants went through a gradual rehabilitation process while others went through a seemingly illogical process of coping, sensemaking followed by relapse and renewed rehabilitation, either leading to full recovery or not. For the latter cases, the recovery process described is not without contradictions and appears devoid of any learning.

First, to illustrate an example of a gradual recovery process, the case of Dieter is interesting as he suffered heavily from the demise of his venture but managed to cope with the aftermath effects (in his case mainly emotional distress and severe financial loss), was able to convert the button and bounced back strongly which led to renewed entrepreneurship in the health-tech industry. Dieter articulates this process as follows:

*“Believe me: it hurt me a lot but after a couple of months, err, well I think more like four or five months to be honest, I said to myself: “Well, Dieter, what are you going to do? Are you going to continue grieving? No! Not that, damn it!”... besides I was not exactly pleasant to be around with, so my wife was glad I started doing something again, haha [ ] Hm, so I cleared my mind a bit and then I started to see some old business friends again, started reading some interesting articles about healthcare IT, visited a couple of*

*conferences...and yes, it made me feel better. [ ] Well, like one thing led to another and I ended up in interesting meetings with a couple of young guys that had a very good business idea but needed someone to help them, I mean not money, I did not have it, but more like the right connections and the experience running a software business. [ ] Well, and now I think I cannot complain, I'm okay and I really like what I am doing. [ ] Yeah, sure I still think about the other company sometimes, but less and less you know, life goes on and well, it's okay and I can see things are moving into the right direction again."*

Whilst Dieter's account may be illustrative for successful recovery and renewed entrepreneurial optimism, findings indicate that the cases of the other entrepreneurs who consider themselves to have gone through a gradual healing process, are less straightforward than the case of Dieter. The reason for this is that, at least in the eyes of the entrepreneurs, one or more aspects of successful and full recovery are missing. For instance, Ludo is quite happy with how things turned out for him. Despite overcoming initial emotional hardship and having been able to "limit financial damage" as he claims, he still feels that venture failure has left an emotional scar because he is no longer active in the healthcare industry which is something he did for most part of his career and it is where his true passion lies. The same goes for Peter who claims to have overcome his failure experience and who considers himself to be successful financially ("I am a well-paid wage slave now"). However, findings also indicate that Peter somehow regrets not being an entrepreneur anymore ("I think I am a born entrepreneur") and expressed remorse over being "outside the healthcare industry". Not being an entrepreneur anymore is also something that is regretted by Matthieu. Illustrative for this, is his comment: "*yeah, when your dream of having your own company is shattered, how are you going to recover from that, how are you going to come to terms with that?*". Still, just like Ludo and Peter, Matthieu thinks that he recovered quite well from venture failure "in view of the circumstances".

The findings show that for some entrepreneurs the recovery process was an ambivalent experience (Jan, Annette) or even appear to not have recovered

at all yet (Erik). Jan and Annette both indicate that bouncing back from venture failure was a process of ups and downs and that it was hard to make sense of the experience and even harder to eventually accept it and move on. The following quote by Jan (despite its length deemed worthwhile to give context) underlines this.

*“Okay, I am not going to beat about the bush: it took me quite some time to come to terms with everything, it was hard to make sense of it all, hm, I don’t know, it was very painful, you know. I think some good friends helped me to get through...well, partially maybe...anyway, I went to a friend’s house in the Algarve, played golf, enjoyed the sun but I wasn’t myself. I have always worked hard, I don’t know... [ ] anyway, when I returned to the hospital, first I had to get used to that life again...after a while it went well but err, it wasn’t really the same as before. I thought I was okay, but something was simmering. Then I decided to stop working for a while because you can’t do my kind of job if you’re not one hundred percent focused. After some time, I resumed work again. Hm, yeah, sure, I was happy to help patients, but I still wanted, well I still want, that my invention can be used by many colleagues...but what can I do? I cannot produce it myself, I cannot sell it myself, well, I don’t know, it is what it is and life’s what you make it...I am doing what I like, I am doing what I’m good at and maybe I should not be whining and just stick to that, well, I don’t know, what do you think?”*

Jan’s narrative implies that the recovery process is not linear, and that venture failure can have a lasting impact. This becomes all the more apparent when taking into consideration that Jan’s venture failed over ten years ago. Also Annette’s recovery process and the impact it had on her decisions in post-failure life and how she considers her current job shows some ambivalence as on the one hand she indicates to be relieved but on the other hand doubtful whether she has “found her destination” in life.

Finally, Erik’s experience of post-failure recovery differs from other participants as findings clearly show that he has not yet completed the processes of grief recovery, coping nor sensemaking.

#### **5.4.1. Analysis and Interpretation**

In this section, a concise analysis of the recovery process as experienced by participants is offered. Recovery from venture failure is a construct which consists of several phases, ranging from coping with the immediate aftermath effects (emotional, financial and social impacts) followed by sensemaking and learning (Singh et al., 2007; Cope, 2011). Although full recovery is assumed by most entrepreneurship scholars, Corner et al. (2017) rather refer to this as a phase in which entrepreneurs exhibit stable levels of functioning again. Findings of this research indicate that (most) entrepreneurs' narratives on the recovery process are hard to distill from the holistic failure experience and interestingly, in some respects, seem to be out of step with extant literature.

##### **a) Coping**

Whereas in entrepreneurial failure literature, coping is generally associated with managing the psychological cost of failure and therefore mainly relates to grief recovery (Ucbasaran et al., 2013), and it is assumed that entrepreneurs must go through this process before meaning can be found (Cardon et al., 2011), findings show that this is not necessarily true. The reason is twofold: first, findings indicate that coping with psychological cost is only part of the story and second, many participants seem not to have closed the process of grief-recovery, or at least not entirely. To illustrate the former, for some entrepreneurs, social impact, in particular "not being part of the healthcare industry anymore" (Peter, Annette and Ludo) is at least as important as grief over loss of the venture. Coping with this is not as straightforward as extant literature suggests, it is not something that can be dealt with and is left behind when entrepreneurs resume their professional lives again. Furthermore, findings demonstrate that overcoming the psychological cost of failure cannot be seen as a process that has a clear beginning and end. Both the group of entrepreneurs that went through a more or less gradual healing process (Ludo, Peter, Dieter and Matthieu) and the entrepreneurs that reported a more ambiguous experience of coping with the emotional impact of failure (Annette, Jan and Erik), suffered from psychological after-effects and have to live with emotional damage they might never fully recover from. This seems to be

incongruent with Shepherd's (2003) loss orientation theory which is a grief recovery strategy that assumes entrepreneurs' ability to overcome any negative emotions associated with failure, which is similar to Cope's (2011) higher-order restoration theory and the emotion-focused coping strategy identified by Singh et al. (2007) although the latter, in line with the findings of this research, argue that entrepreneurs are able to cope with anger, guilt, depression and despair but not necessarily with other psychological aspects of entrepreneurial failure such as grief and frustration. In other words: in the research by Singh et al. (2007), entrepreneurs did not demonstrate any coping strategies for grief and frustration. I argue that the same goes for the entrepreneurs that participated in this study.

#### **b) Sensemaking and learning**

To start with, findings show that each individual narrative is unique and demonstrate that sensemaking among entrepreneurs is complex and strongly interrelated to coping with the immediate aftermath effects of failure. This research confirms that the mechanisms (called 'failure attributions' in literature (Cardon et al., 2011, Heinze, 2013) through which entrepreneurs attempt to explain business failure, include entrepreneurs' reflections on their own role, the role of other stakeholders as well as external events that attributed to failure, and are indeed highly subjective and probably culturally bound. Sensemaking is a process that involves interaction with the direct social environment. For instance, Dieter talked extensively with his "old business friends" and this helped him to assign meaning to the failure of his venture. Jan also spent quite a lot of time with a close friend that helped him to make sense of the failure event. This did not only happen shortly after failure occurred but remained important for quite a long time (in the words of Dieter: "there are few people that really understand what happened and that know what I had to go through. The ones that do, have been very important to me. Without them I would not be where I am today"). Although it is hard to pinpoint, interpretation of the individual narratives, implies that, to some extent at least, culture plays a role in assigning meaning to failure. Some entrepreneurs were not hesitant to openly share their experiences with friends, relatives and business

relations, while others were less socially engaged and tried to make sense of the experience mainly through critical self-reflection. Especially the case of Annette is illustrative as she indicated that she did not feel the need to seek help and that her parents taught her to “pull her own weight”. Although other people encouraged her to start her own business in the first place, she did not engage with these people after failure.

Although various authors (Shepherd, 2003 and 2009a; Singh et al., 2007; Cope, 2011; Heinze, 2013; Byrne and Shepherd, 2015) argue that sensemaking is essential for future-oriented learning, remarkably, this research does not provide empirical evidence that this is the case. In fact, entrepreneurs did hardly talk about learning and analysis of findings does not point in that direction either. This raises the question whether learning did not take place in these particular cases and if so, if there are any underlying obstructive factors for this. The data led me to surmise that entrepreneurs learned from their experiences but were not explicit about it during the interviews. IPA methodology is used by the researcher to interpret experiences, which include presumptions about learning from failure, even if data analysis does not directly shed light on this. The hermeneutic work related to this sub-theme of recovering from venture failure, suggests that learning must have taken place, simply because of participants' accounts on sensemaking which is a process that is closely linked to learning. The data show that entrepreneurs engaged in efforts to understand what happened and why their businesses failed and provides evidence for self-reflection and meaning-seeking with family and friends. This implies that learning did take place, the data do not make clear however, to what extent entrepreneurs learned from failure. As suggested by Shepherd (2003), Cope (2011) and Jenkins et al. (2014) this depends on the extent to which entrepreneurs are able to successfully rehabilitate and make sense of the experience. In this study, I therefore presume that Erik, Jan and Annette's learning experience was less strong than that of entrepreneurs who indicated to have experienced a successful path of recovery and are (relatively) happy with their lives today. Or, as argued by Byrne and Shepherd (2015), entrepreneurs who do not manage to cast off

negative emotions, are less likely to learn from venture failure. Other obstructive factors, detailed by Iske (2018), such as lack of time for reflection and making learnings explicit, lack of constructive feedback from others and denial or camouflaging failure, can certainly have contributed to the absence of the learning sub-theme in this study.

### c) **Outcomes**

This section addresses the longer-term effects of venture failure experienced by entrepreneurs. In line with entrepreneurial failure literature, this research re-affirms that these outcomes can have an entrepreneurial, personal and cognitive nature (Ucbasaran et al., 2013). As summarised above, the findings demonstrate the following professional outcomes:

- Dieter now is managing another start-up in the health-tech sector. He is not the main shareholder but has a minority stake in the company.
- Jan is no longer an entrepreneur. He resumed his job as a cardiologist in the hospital where he worked prior to starting his venture.
- Annette is not an entrepreneur anymore, she has even withdrawn from business life and is now a lecturer.
- Ludo is still an entrepreneur. He owns a successful business, albeit not related to healthcare.
- Matthieu is no longer an entrepreneur. He is now a community pharmacist, just like he was before he started his company.
- Peter is not an entrepreneur anymore but works as a CFO in a financial services company.
- Erik does not know yet what he will do next.

What is most remarkable about this, is that five out of seven participants are no longer active as entrepreneurs and only Dieter is still a health-tech entrepreneur. Based on these findings one would think that failure is perhaps not the valuable learning-experience that builds resilience for re-entry as

suggested by, amongst others, Cope (2011), Jenkins et al. (2014) and Byrne and Shepherd (2015). When looking into the underlying individual considerations, it becomes apparent that this can be led back to the dominating aftermath experiences, i.e. Jan, Annette and Matthieu did not embark on new entrepreneurial adventures mainly due to financial reasons, Ludo and Peter were faced with long-term professional social effects that prevented them from being able to return to healthcare entrepreneurship and Erik still suffers from both emotional and social aftermath effects. Furthermore, many but not all entrepreneurs lost their appetite for starting a new venture. Dieter and Ludo are still entrepreneurs and Matthieu still has an outspoken ambition to start a new business of his own again. Annette and Jan however, do not aspire to set up a new business, due to the failure experience they had. What is also interesting, is that opposed to findings presented by Alvarez and Barney (2005) and Mueller and Shepherd (2016), this research does not provide evidence that entrepreneurs who experienced failure, become better at identifying new business opportunities. Only two entrepreneurs (Dieter and Ludo) have managed to spot new opportunities which appear to be successful (especially Ludo's company has realised rapid growth in recent years). Whether this positive entrepreneurial outcome can be attributed to failure experience or other aspects, would have to be investigated further.

The findings reveal that the desire and ability to establish a new venture, also relate to cognitive outcomes. The lived experience of entrepreneurial failure impacts entrepreneurs' self-confidence as well as their (over)optimistic view on entrepreneurship. Research findings show that failure experience undermined some participants' belief in their own entrepreneurial skills and competencies i.e. Annette and Jan indicated that "maybe they are just not fit for entrepreneurship". It must be said that Annette already had doubts when she started her venture, but Jan was confident that he could be successful. Also Erik strongly believed that his skills contributed to the success of the company which stands in sharp contrast with his self-confidence in a post-failure context. Hence, findings seem to be congruent with the work of Ng (2015) and Cossette (2015) who indicate that failure can have a long-lasting impact on entrepreneurs' assessment of their entrepreneurial skills. Although

entrepreneurial optimism is not a personality trait but rather a cognitive construct that applies to a specific entrepreneurial context, research findings imply that the extent of early-stage optimism does not impact optimism in a post-failure context (i.e. the belief in positive outcomes related to any new venture), if only because only two entrepreneurs engaged in entrepreneurship again. My interpretation of their accounts is that Ludo has become more pragmatic (in comparison to his account of almost unbridled optimism in the early 2000s) and that Dieter is still a true optimist who tends to take opportunistic decisions.

In terms of personal long-range effects of failure, most participants seem to have come out of their failure experiences unscathed although findings do not provide much insight in entrepreneurs' current private relationships and whether these have been affected by the failure experience. The case of Erik is the exception here. My interpretation of his story is that both his professional and private life have fallen apart and although it is likely that he can resurrect his professional career (given his experience and expertise he should be able to find a good job), the findings indicate that his private relationships (at least in his local community) will probably not recover.

Although not made explicit in participants' phenomenological accounts, several factors appear to play a role in how entrepreneurs recall the experience of recovering from failure. Considering entrepreneurs' retrospective reflections, it has already become clear that their current situations (i.e. at the time of the interviews) impact the lived experience of recovering from failure. Whether entrepreneurs are doing well currently, influences the way they look back and which conclusions they have drawn from experiencing venture failure. For instance, whether participants are still entrepreneurs, whether they are still active in the healthcare industry, whether they have fully overcome financial impacts, are determinant factors. Also, one might think that the longer ago failure occurred, the better entrepreneurs would be able to reflect on learnings and outcomes. However, the research does not confirm this assumption. For instance, Ludo and Jan experienced failure

longer than ten years ago, but findings suggest that they have not fully come to terms with the event.

The hermeneutic work related to the superordinate theme of recovery from failure aims at developing a deeper understanding of how entrepreneurs cope with the aftermath of venture failure, make sense, and eventually get on with their lives, and therefore attempts to look 'beyond the text'. A common thread that seems to shape entrepreneurs' experiences to a great extent is whether they have been able to accept venture failure and as a result, accept current life. As argued by Josephs et al. (1999), the construction of meaning always contains a state of tension between 'what is' and 'what could be' or as put forward by Abbey (2006, p.36) "meaning grows through ambivalence between what is and what could be". I propose that meaning-making of venture failure by health-tech entrepreneurs, contains an element of 'what could have been' which continues to shape notions of lived experience. Rather than a demarcated, finished process, venture failure leaves a permanent mark on entrepreneurs' perspectives.

### **5.5. A Love-Hate Relationship with Healthcare**

The fourth superordinate theme that emerged from the data can be best called 'a love-hate relationship with healthcare' and demonstrates that health-tech entrepreneurs on the one hand show a passion for healthcare and on the other hand struggle with the complexity that is inextricably linked to the industry. A key finding of this research is that the business context and the individual motivations of entrepreneurs for working in the healthcare industry, shape the lived experience of venture failure.

Participants' attitudes towards the healthcare industry vary but have in common that entrepreneurship in this sector is experienced as complex, frustrating, challenging, promising and rewarding at the same time. The main difference between participants' accounts, is their tendency towards either the positive or negative aspects which in turn, largely depends on their lived

experiences of aftermath, recovery and outcomes of venture failure. Conversely, this implies that the various aspects of failure experience can be assessed against the unique healthcare industry context in which they take place.

Below a selection of transcript extracts that best illustrates participants' positive and negative connotations of being an entrepreneur in the health-tech industry:

Dieter	"Well, do you know why I wanted to set up something in e-health? Not because it was a sexy business, no, no... Because I really thought it was a sensible thing to do, because it really could make a difference in data exchange. [ ] I don't think it is a coincidence that I ended up in healthcare IT again, it feels good to work on it, I'm loving it. I am happy that I can contribute to this important stuff."
Erik	"For me, it's simple: it's about the best possible clinical outcomes. And that's what makes it worthwhile, that's what I wanted to devote myself to."
Jan	"Hm, I don't see healthcare as an industry. Okay, yes, I am aware it is a huge ecosystem with many stakeholders. But for me...I just believe it is about helping patients, that's my calling, that's what it means to me. If I can help patients and colleagues, I mean, that is very satisfying."
Ludo	"There's a lot to be improved in healthcare and I think this is what makes health technology so exciting, there are plenty of opportunities for making a difference. Well, perhaps business won't save healthcare, but I am convinced about the opportunities that lie ahead. I mean: for great, innovative ideas."
Matthieu	"New entrepreneurial ideas give me hope for advancing patient care. I think that's what makes it rewarding. I enjoy it when I see examples of successful collaboration between companies and healthcare providers."

**Table 5.3 - Participants' positive connotations of health-tech entrepreneurship**

Annette	"I think it is hard to be an entrepreneur, regardless of the industry...but the healthcare industry, pff, that's even harder. I think it's because you depend on many stakeholders, it makes it very complex. And it's so uncertain because, err, I don't know, you never know who is going to delay things. It's like people are not moving in the same direction when it's needed."
Dieter	"You know what makes it so challenging? It's like it's not enough to have a good solution, a good solution does not sell itself like in normal markets, healthcare is a very fragmented market...and all the compliance stuff, gosh, I wish it was different, yes, it's a big challenge."
Erik	"Yes, I know cost reduction is important but come on, is quality less important? If it's all about price, err, I think that's the wrong strategy. I sometimes really do not understand it, always talking about value, about value-based healthcare but at the end of the day...it frustrates me. [ ] ...err, and who's really taking the decisions? Hospital executives? Insurers? Steering committees? Well, not the radiologists anymore. They all have conflictive interests, everyone wants to have a say, but nobody has the overview, it's a bit too complicated I think."
Matthieu	"There is so much talking, so much blah blah, and every time you think it is going well, another problem pops up, it's very frustrating sometimes. Pff, yeah, the departmental government have no clue and then, after they've gone for lunch with the big guys, you need to start all over again."
Peter	"I mean: Rome wasn't built in one day, but I doubt whether it will ever work. Sure, many brilliant ideas...but... The NHS policy reforms, the power of large private medical insurance companies. For small entrepreneurs, it is very complicated to navigate through health systems, you've got to have deep pockets...and a lot of patience. [ ] I think common sense is the answer to many issues in healthcare, but there is a lack of common sense, it annoys me."

**Table 5.4 - Participants' negative connotations of health-tech entrepreneurship**

The above is merely a selection of participants' positive and negative associations with the healthcare industry, or sometimes even with healthcare as a whole. Whilst Annette and Peter tend more toward the negative aspects, Ludo and Jan predominantly have a positive attitude toward healthcare and Dieter, Erik and Matthieu display mixed feelings. Although the latter reflect the predominating connotations, it is important to note that *all* participants' accounts contain seemingly contradictory expressions of passion and aversion associated with healthcare.

In terms of expressing passion for healthcare, the data shows that participants put emphasis on the societal importance of healthcare. Some emphasise the human factor (advancing healthcare for the benefit of patients and health professionals), while others stress the need for improving the healthcare system.

Aversion to healthcare is expressed by indicating its vast complexity but also its inertia. Complexity is mainly attributed to strict regulation, stakeholder management, market forces, governmental interference and ambiguous health policies (both on EU, national and regional levels). Inertia relates to slow decision making by healthcare providers (i.e. hospitals, pharmacies), insurers and policy makers. Participants indicate that the healthcare industry is not very “entrepreneurship-friendly” (Dieter, Ludo) but at the same time there is a need for drastic change that can be boosted by innovation. In the words of Matthieu: “healthcare needs new ideas, entrepreneurs bring innovation, and this should be adopted”.

The love-hate relationship with healthcare is remarkable as one would expect that failure would cause feelings of resentment among entrepreneurs. However, findings show that this is not the case. The unique business context does contribute to the lived experience of venture failure however. Findings indicate that, feelings of remorse are deeper and that, for the participants that are no longer active in healthcare (Annette, Ludo, Erik and Peter) long-term psychological and social effects (due to “not being able to contribute to the improvement of healthcare” and “not being part of the healthcare industry anymore”) are more difficult to accept.

### **5.5.1. Analysis and Interpretation**

While much has been written on the complexity of healthcare (Burns, 2012; Phillips et al., 2017) and the barriers encountered by health-tech entrepreneurs (Hwang and Christensen, 2008; Keppler et al., 2015; Beaulieu and Lehoux, 2018), little is known about the intrinsic motivation of these entrepreneurs, and even less about how this impacts the lived experience of venture failure. The research findings cast light on entrepreneurs’ ambivalent attitude, caused by positive and negative associations with the healthcare industry. This raises the question what causes these paradoxical emotions.

What lies beneath participants’ positive connotations of healthcare and thus the health-tech industry, is personal affection and passion for patient care, which can be considered an intrinsic motivation for these entrepreneurs. This

is either expressed directly (entrepreneurs talk about “helping patients” and “advancing patient care”) or indirectly through conveying the desire to improve healthcare procedures or clinical outcomes. This implies that healthcare entrepreneurship is not just about growth and profits but that there is a higher goal that motivates entrepreneurs. The research reveals that this idealism plays a big role among participants and consequently impacts the way they experienced venture failure.

In order to obtain a deeper understanding of what is it like to experience venture failure in the healthcare industry, in view of entrepreneurs’ idealistic motives, insights from adjacent research fields can be drawn on, i.e. social entrepreneurship research and medical research (specifically research on healthcare professionals such as doctors and nurses). Social entrepreneurs are driven by a combination of motives (Shaw and Carter, 2007), equal to their commercial counterparts, but above all, regard personal satisfaction and successfully addressing social issues as key objectives for engaging in entrepreneurship (Bacq et al., 2016). Albeit in an institutional rather than a commercial setting, medical professionals express similar intrinsic motivation: they find satisfaction in care of patients (Cabin, 2008; Burks and Kobus, 2012; Yogarabindranath, 2013). What social entrepreneurs and medical practitioners have in common, is the principle of beneficence: rather than extrinsic motivations such as financial incentives, praise, attention and approval (Ryan and Deci, 2000), they attach great value to “actively doing good for society” (Bacq et al., 2016, p.703). The parallels with the healthcare entrepreneurs interviewed for this research are interesting: despite venture failure experience and hardship suffered, participants expressed a deep affection for healthcare that goes beyond common entrepreneurial (extrinsic) motivation. Whilst the entrepreneurs with a medical practitioner background (Jan and Matthieu) put more focus on patient care, the other entrepreneurs displayed strong intrinsic motivation for improving healthcare procedures and clinical outcomes.

In sharp contrast with participants’ affection for healthcare, is their aversion to the complexity and sluggishness of the healthcare system, often motivated by

bad experiences that, to a greater or lesser extent, contributed to venture failure. Fundamentally, the negative associations with healthcare, can be perceived as feelings of frustration. Some participants are frustrated about the opaque and slow decision-making that makes it hard to get things done (Ludo: "it is like wading through treacle") while others (e.g. Peter and Matthieu) are frustrated about the unequal power relations between small entrepreneurs and decision makers. As indicated in sections 2.5. and 2.5.1., dealing with the complexity and inertia of health systems is a key entrepreneurial challenge in the healthcare sector. Horgan et al. (2018) indicate that small SMEs are disadvantaged in overregulated and bureaucratic health systems, compared to large corporations who have more resources and can manage complexity better. This not only relates to the complexity of health systems with its many stakeholders and decision makers but also to interrelated barriers such as regulation (see section 2.5.2.), health technology assessment (section 2.5.3.) and financing (2.5.4.). Findings demonstrate that only Matthieu and Peter focused on their domestic market which is atypical for healthcare start-ups that typically seek to expand internationally (EC, 2018a; Horgan et al., 2018; EC, 2019). This implies that for most participants not only the particularities of their domestic health ecosystem formed a barrier but also the health systems of the countries where they pursued business. As seen in section 2.2.2. the European health systems that are relevant to this study are largely homogeneous. Interpretation is that this might be the reason that participants were not overly explicit about national health system barriers and consequently this did not arise as a superordinate theme on its own but rather as part of entrepreneurs' negative connotations with the healthcare sector.

Although it might seem apparent that entrepreneurs' lived experiences are shaped by the business environment in which they operate, extant entrepreneurship literature does not offer empirical analyses of how complex ecosystems, such as healthcare, impact experiences of aftermath, recovery and outcomes of venture failure. Although the complexity of healthcare is widely acknowledged and there is a growing body of literature suggesting that healthcare systems should be managed as complex adaptive systems in which both public and private sector actors continuously interact without

external control (Martin, 2018; Alibrahim and Wu, 2019; Sturmberg and Bircher, 2019), Roehrich et al. (2014) go as far as stating that health systems are virtually unmanageable and that many public-private partnerships fail. This hinders the efforts of private sector players, among which entrepreneurs, who attempt to contribute to the emergence of higher quality healthcare through innovation, technical knowledge, managerial efficiency and the spirit to upset the status quo (Roehrich et al., 2014; Horgan et al., 2018).

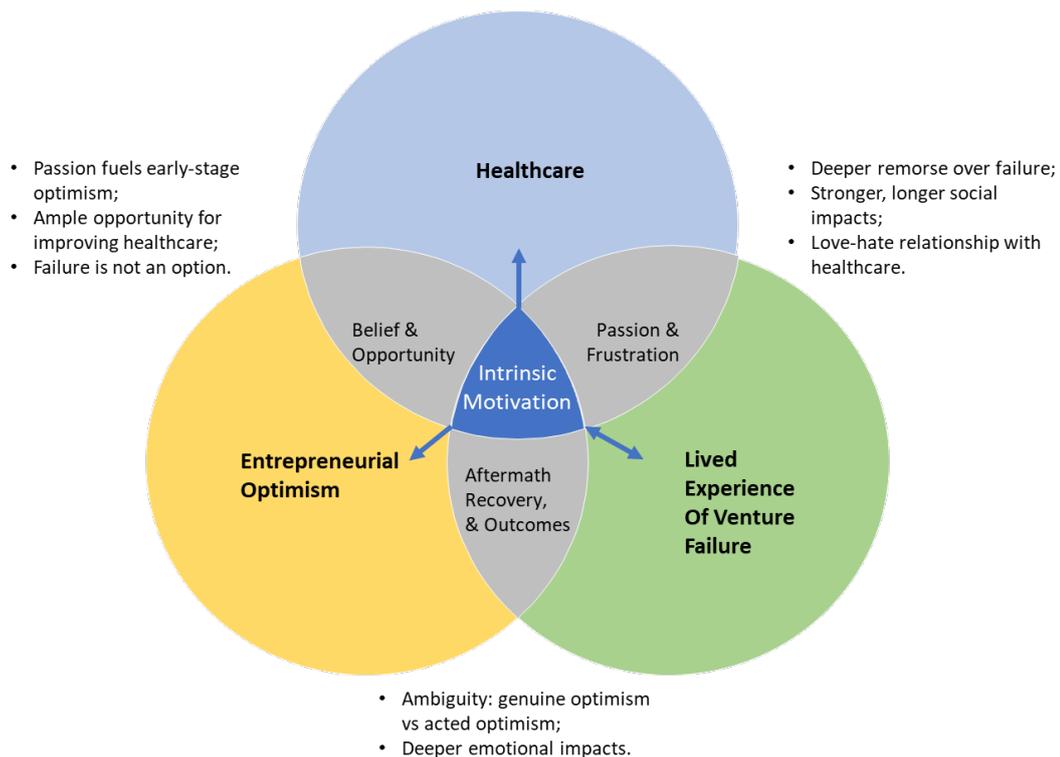
It is interesting to compare attitudes towards healthcare of medical professionals such as physicians, nurses, etc. with the ones of healthcare entrepreneurs. Remarkably, there appear to be similarities in how complexity associated with healthcare systems is experienced. Healthcare workers experience organisational impediments (Cabin, 2008; Yogarabindranath, 2013), financial constraints and complexity around reimbursement policies (Burks and Kobus, 2012), and external interventions and regulations that cause restrictions in autonomy and empowerment (Yogarabindranath, 2013). If not managed properly, these barriers can have detrimental effects on intrinsic motivation of medical professionals and may lead to poorer quality of care. Yet, despite all of this, medical professionals are passionate about healthcare and display humanistic and prosocial behaviour, which concentrates around the welfare and wellbeing of other people (Burks and Kobus, 2012).

Finally, the frustration about healthcare systems seems to have dented most entrepreneurs' confidence in the feasibility of making a contribution towards improving healthcare. It has not affected their passion for healthcare but rather their belief in positive entrepreneurial outcomes which is illustrated by the fact that six out of seven participants are no longer active in the private healthcare sector. Self-evidently, this relates directly to particular failure experiences and might not be representative for the entire healthcare entrepreneurship community, but nevertheless could be considered a bad sign and an indicator that the healthcare business environment contains insurmountable barriers that prevent entrepreneurs from market (re)entry.

## **5.6. Cross-theme Analysis (interrelations and interpretations)**

It is not easy to grasp the essence of lived experiences of entrepreneurial failure. The findings demonstrate that failure experiences are multi-faceted, complex and shaped by particular circumstances and impacts on entrepreneurs' lives. Notwithstanding particular accounts of lived experiences, superordinate themes emerged from the data. This section addresses the extent to which these are interrelated.

This research affirms the interrelations between aftermath effects, recovery from failure and outcomes, as discussed in sections 5.3. and 5.4. Findings in this area are congruent with entrepreneurial failure literature (i.a. Singh et al., 2007; Ucbasaran et al., 2010; Cope, 2011; Heinze, 2013; Byrne and Shepherd, 2015). Also, this research concurs with insights on the relationship between entrepreneurial optimism and individual experience of venture failure (Kuntze and Matulich, 2016). The finding that healthcare, as a rather unique and complex business environment, impacts many facets of the lived experience of failure, is a major contribution of this research. Lived experience of venture failure in the healthcare industry can only be understood if entrepreneurs' intrinsic motivation is considered, as it touches all superordinate themes that emerged from the data, and thus shapes the holistic experience (Figure 5.1.). The interfaces between the various dimensions are elaborated below.



**Figure 5.1** – Holistic Model of Lived Experience of Failure among Healthcare Entrepreneurs

Idealistic motives (=intrinsic motivation) inspired participants to start a venture in the healthcare industry. A firm belief in the opportunity to contribute to the advancement of healthcare, reinforced early-stage optimism. Overoptimism (unrealistic optimism) made entrepreneurs fully focus on achieving both entrepreneurial and social goals and generally, failure as a possible entrepreneurial outcome, was not anticipated nor planned for. The stronger entrepreneurial optimism (fueled by belief in the business opportunity and the desire (=intrinsic motivation) to make a contribution towards improving healthcare), the more impactful the negative emotional effects of venture failure. Emotional hardship among entrepreneurs is reinforced by remorse and pain over the missed opportunity to drive change in healthcare and thus contributing to society. Particularly in healthcare, and probably stronger than in other industry sectors, entrepreneurs who experience failure, are deeply impacted by long-term negative social effects. The specific social setting of the healthcare industry shapes entrepreneurs' lived experiences of social costs of failure.

Due to failure experience in the healthcare context, entrepreneurs develop a dual attitude towards healthcare (Wilson et al., 2000). The failure experience does not seem to affect their passion for healthcare but rather causes feelings of repugnance towards the complexity and sluggish decision-making processes in health systems. Whereas intrinsic motivation among healthcare entrepreneurs stimulates entrepreneurial activity and the deliberate choice to be part of the healthcare ecosystem, it shapes lived experiences of failure. In turn, failure experience does not seem to impact individual entrepreneurs' passion for healthcare. However, the research suggests that, among participants, renewed entrepreneurship in the healthcare industry is granted only to very few. The latter could be explained mainly by the deep, long-term social costs of failure such as professional stigmatisation.

### **5.7. Summary**

This chapter presents the findings of this thesis. Across-transcripts analysis revealed four recurrent themes that capture the essence of lived experience of failure among the entrepreneurs that participated in the research. The four superordinate themes are: 1) entrepreneurial optimism which is a cognitive bias that shapes the experience of venture failure; 2) aftermath effects which are the immediate consequences of failure experienced by entrepreneurs comprising emotional, financial and social impacts of failure on entrepreneurs' lives; 3) recovery from failure that addresses the processes of coping with the aftermath effects, sensemaking of the failure experience and the longer-term outcomes of failure, in particular whether renewed entrepreneurial activity is undertaken by participants or not, and 4) the love-hate relationship that participants have with healthcare (both healthcare systems and the healthcare industry as part thereof), providing insight into struggles with the challenging, distinctive business environment on the one hand, and the passion and intrinsic motivation that is displayed by healthcare entrepreneurs on the other hand. Finally, it is demonstrated how superordinate themes are interrelated, showing a holistic model of lived experience of failure among healthcare entrepreneurs.

## **6. DISCUSSION AND CONCLUSIONS**

### **6.1. Introduction**

This final chapter discusses why this thesis matters. Based on the findings that emerged from the data, answers to the research questions are provided in a concise and purposeful manner. The insights that arose through the research inform the implications for entrepreneurship theory, practice and policy. The limitations of this study are discussed and suggestions for further research are offered. Finally, I reflect on the thesis project as a whole.

### **6.2. Discussion of Findings**

Building on and extending extant theory on impacts and consequences of business failure for entrepreneurs (Singh et al., 2007; Cope, 2011; Ucbasaran et al., 2013; Byrne and Shepherd, 2015; Corner et al., 2017) this thesis explored the lived experiences of venture failure among *healthcare* entrepreneurs. The findings provide an answer to the central research question (RQ1) which reads as follows: *'How do entrepreneurs in the healthcare industry experience and make sense of failure of their venture?'* The research findings revealed that venture failure is hard to capture in a uniform, straightforward manner but rather is a complex phenomenon that has detrimental effects on many facets of entrepreneurs' lives, and that the common themes that make up the holistic failure experience are intimately interconnected through entrepreneurs' intrinsic motivation to contribute to the advancement of healthcare. Furthermore, as part of the holistic failure experience, the research also provides an understanding of the role of entrepreneurial optimism and how healthcare entrepreneurs conceptualise the

impact of venture failure, which corresponds to the sub-questions of this thesis (RQ1a and RQ1b).

Venture failure is a very significant and impactful experience and meaning-making by individual entrepreneurs, whilst giving voice to the idiographic elements it builds on, has common characteristics that grasp the essence of lived experience of venture failure in the healthcare industry. The common themes that emerged from the data encompass early-stage optimism, aftermath effects, recovery from failure and the love-hate relationship that participants have with healthcare. These four superordinate themes are inextricably linked, with the latter theme playing a determining role in how participants experienced and interpreted the former three. In summary, and in answer to the research questions, the conclusions are provided below.

Entrepreneurial optimism is the predominant cognitive mechanism among entrepreneurs during the pre-venture and early stages of their new companies (Cossette, 2015) and forms an integral part of the holistic experience of failure as it is of influence on post-failure experience. Particularly in the healthcare industry, idealism shapes entrepreneurial optimism among entrepreneurs, whether having prior entrepreneurial experience or not. Idealistic motives such as helping patients or improving healthcare are important drivers for starting a new venture. Entrepreneurial optimism among the healthcare entrepreneurs that participated in this research was genuine when related to their passion for healthcare. At the same time, acted optimism was recognised to be a necessary evil for convincing investors. Whether unrealistic optimism is more common among healthcare entrepreneurs and to which extent this contributed to venture failure, did not become apparent. Rather, the extent of early-stage optimism among healthcare entrepreneurs, prompted by passion and idealism, influences individual failure experiences.

Without any exception, the entrepreneurs in this study suffered heavily from failure of their ventures. The research showed that the aftermath of failure, a prevalent theme in participants' narratives, is a multi-headed monster which impacts many aspects of entrepreneurs' lives. Although entrepreneurs'

accounts on this theme were rather messy and infused with sentiments, which made analysis challenging, the aftermath effects can be categorised in three inter-related spheres, namely emotional, financial and social effects. These aftermath spheres are intertwined as the extent of financial loss can impact emotional hardship, disturbed social relationships have an impact on emotional suffering and vice versa. Especially emotional and social consequences of failure turned out to be very impactful and can be related directly to the unique business environment in which healthcare entrepreneurs operate. The deep and complex experience of loss left emotional scars among participants. The extent and severity of grief can be related to participants' perception of loss which in turn, relates to feelings of guilt and self-blame. A key finding of this research is that there appears to be a relationship between psychological aftermath affects and entrepreneurs' pain and remorse over failing to make a contribution towards improving healthcare. This suggests that emotional aftermath effects are more intense and deeper among healthcare entrepreneurs as failure affects their *raison d'être*.

The findings also indicate that venture failure has a profound impact on entrepreneurs' personal and professional relationships. All participants suffered from disturbed relationships, either with their loved ones or with stakeholders of their ventures. Besides social isolation and cases of participants' implicit self-stigmatisation as a result of failure, a remarkable finding of this research is that failed healthcare entrepreneurs experience social stigmatisation to a great extent. They feel ostracised from professional relationships and networks in the healthcare industry. Whilst acknowledging differences between individual cases, it can be argued that the social cost of failure among entrepreneurs in the healthcare industry is perhaps greater than in other industries. At least, the particular social setting of the healthcare industry directly impacts lived experiences of failure and can have consequences for longer-term post-failure outcomes such as entrepreneurial re-entry.

The research found that recovery from the aftermath of failure is not a linear, straightforward process. Instead, participants might never fully recover from

the experience of venture failure. Dependent on individual cases, they were able to resume their lives to a greater or lesser extent. However, feelings of grief and frustration still existed among entrepreneurs, even when failure occurred many years ago. Findings demonstrate that coping with the psychological cost of failure, most closely linked to grief recovery, is not a process that is 'closed' when entrepreneurs move on with their lives. The findings revealed that next to the loss of their ventures, social impact, i.e. not being part of the healthcare industry anymore, hinders full emotional recovery. The research revealed that it is not evident that entrepreneurs' efforts to deal with the negative consequences of failure, lead to learning. Although participants tried to make sense of the failure experience, through self-reflection and interaction with their social environment, the learning theme was a 'notable absentee' in this research. This was somehow surprising as extant theory with respect to coping with and sensemaking of failure suggests otherwise (Coelho and McClure, 2005; Politis and Gabrielsson, 2009; Cope, 2011; Mueller and Shepherd, 2016). The research suggests that this can be explained by participants' inability to cast off negative emotions and other factors that might obstruct learning. A remarkable finding of this research is that five out of seven participants are no longer active as entrepreneurs and only one is still an entrepreneur in the healthcare industry. The research brought to light that this can be attributed to either emotional, financial and social consequences of failure or a combination thereof, and that in many cases this relates to the specific healthcare business context i.e. entrepreneurs' inability to leverage their (former) professional network or the lack of access to funding (e.g. healthcare-specific venture capitalists or private investors). Finally, the research indicates that venture failure in the healthcare industry has a devastating impact on entrepreneurs who did not remain unscathed and therefore simply lost their appetite for renewed entrepreneurial adventure.

Venture failure experience in the healthcare industry cannot be understood in isolation of its business environment which is more complex than most other industries and appeals only to a special kind of entrepreneurs who typically are passionate about patient care or possess the noble aspiration to improve

healthcare systems. It is precisely this intrinsic motivation that shapes venture failure among healthcare entrepreneurs and catches them in an intricate antagonism: on the one hand they have a deep and genuine affection for healthcare which motivated them to pursue venture success in the first place, and on the other hand they feel aversion to the complexity and politics that characterise the healthcare industry. The latter, although it did not crop up explicitly as one of the superordinate themes that make up holistic failure experience, in some cases was perhaps one of the causes of venture failure. In any case, it certainly contributed to how entrepreneurs experienced aftermath effects, the recovery process and eventually longer-term post-failure outcomes. In other words: based on the research findings, it is proposed that entrepreneurship in the healthcare industry is challenging and that entrepreneurs are hit harder by venture failure.

### **6.3. Empirical Contributions**

The empirical novelty of this study is threefold: 1) the focus on entrepreneurial failure, rather than success, 2) the addition of empirical weight to the body of entrepreneurial failure studies through qualitative research and 3) an empirical contribution is made by applying IPA. This allows obtaining rich insights in a way that is not widely used in this field (further to Cope, 2011 and Heinze, 2013). The thesis serves as an exemplar to others who might wish to undertake similar studies.

Existing literature predominantly focuses on entrepreneurial success (Singh et al., 2007; Ucbasaran et al., 2013; Kuntze and Matulich, 2016) and empirical studies on individual-level entrepreneurial failure experience are scarce (Cope, 2011; Heinze, 2013; Byrne and Shepherd, 2015). This empirical study makes a contribution by exploring failure experience among entrepreneurs who actually experienced failure of their ventures and thus adds to the extant body of entrepreneurship literature.

In addition to existing scholarly work on entrepreneurial failure - written by failure theorists - the present IPA study offers a fresh interpretation of what it is like to experience venture failure, through the researcher's own experience with the phenomenon. Since the researcher is an academic practitioner, inevitably, there is both focus on conceptual models and keen interest in the lived experiences of peer practitioners and what venture failure really means to them in practice. The latter informs entrepreneurial failure theory in turn. Exploring venture failure through scholar-practitioner glasses not only influenced the research approach and the interpretation of findings but also offered an opportunity to naturally close the relevance gap of this academic research (Klein and Rowe, 2008; Toffel, 2016) as the insights of this study have been reflected upon by an academic-practitioner and, at least, have been / will be discussed within the practitioner network of the author.

#### **6.4. Theoretical Implications**

The focus of this IPA study has been on understanding the essence of venture failure experience among entrepreneurs in the healthcare sector. As opposed to other research approaches, both quantitative and qualitative i.e. grounded theory, the purpose was not on developing a theory grounded in data from the field (Creswell, 2007). Still, delving into particular cases helps with obtaining an understanding of universal experiences of venture failure in similar contexts and can thus enrich or challenge existing theory. This study focuses on analytic generalisation in the sense that previously developed theory was used to inform and be compared with the empirical results of this IPA study (Maxwell and Chmiel, 2013). Smith et al. (2009) pay attention to analytic induction as a reflective iterative procedure for inter-case analysis in IPA. Theories are inductively developed (Maxwell and Chmiel, 2013) and extant theory can be used to obtain an understanding of particular cases. Larkin and Thompson (2012, p.103) emphasise that "IPA does not test hypotheses, and is not usually used to build theory per se – but its analytic outcomes can be used to open up a dialogue with extant theory."

As indicated in sections 4.5 and 4.9 of this work, participants were not selected for the purpose of generalisation but rather for their ability to provide rich insights about their experiences of the phenomenon under study which is in line with IPA's focus on the particular. Smith et. al (2009, p.29) indicate that "idiography does not eschew generalizations, but rather prescribes a different way of establishing those generalizations, locating them in the particular, and hence developing them more cautiously." IPA studies generally are concerned with transferability rather than generalisation (Knight and Moloney, 2005; Hefferon and Gil-Rodriguez, 2011; Cope, 2011) meaning that the IPA research design of this study precludes generalisation of the findings as representative of other entrepreneurs in other healthcare ventures, but still, themes and insights might be relevant to other entrepreneurs who operate within a similar professional context. Or in other words: the pursuit of generalisation of research findings from this study's sample to an entire population (of healthcare entrepreneurs) as a quality criterion or research objective would conflict with interpretative phenomenological ideology (Bryman, 2008). Nonetheless similarities were found amongst all seven participants interviewed concerning the essence of their failure experiences – without in any way aiming for generalisation. The nature of this study does not strive for external generalisation – the individual and particularities impede this as particular accounts were interpreted in a context-related manner. Findings, interpretative analysis and conclusions drawn are thus specific to the particular group of participants and generalisations should be approached with caution (Brocki and Wearden, 2006). Although in academia there is often the expectation that external generalisability (Maxwell and Chmiel, 2013) is the ultimate goal of any research (Hefferon and Gil-Rodriguez, 2011), this is not the case with IPA. Smith et al. (2009) argue for 'theoretical generalisability', where the reader may be able to 'assess the evidence in relation to their existing professional and experiential knowledge' (p.4). Maxwell and Chmiel (2013, p.541) indicate that "this shifts the responsibility for making generalizations from the researcher to the reader or potential user of the findings". Smith et al. (2009) state that this can be considered theoretical transferability rather than empirical generalisability because "the reader makes the links between the analysis in an IPA study, their own personal and

professional experience, and the claims in extant literature (p.51).” Hefferon and Gil-Rodriguez (2011, p.758) argue that “idiographic qualitative research such as IPA has much to contribute to our understanding of phenomena, as it can complement actuarial claims derived from quantitative studies through a focus on the particular which can help illuminate the universal”. The application of IPA in this context is novel as it provides detailed examinations of personal lived experience. It produces an account of lived experience in its own terms rather than one prescribed by pre-existing theoretical preconceptions, acknowledging that this is an interpretative endeavour.

Although the aim of this DBA thesis was on developing a rich understanding of lived experiences of venture failure among individual entrepreneurs rather than on developing theoretical concepts per se, the exclusive focus on the healthcare industry offers new perspectives on extant entrepreneurship theory. The study advances the understanding of entrepreneurial failure and takes into consideration the specifics of the healthcare sector/environment in this regard.

First and foremost, where previous studies drew on research samples of entrepreneurs from various industries (Singh et al., 2007; Cope, 2011, Heinze, 2013; Jenkins et al. 2014), and where previous theoretical contributions did not incorporate industry effects (Shepherd et al., 2000), this thesis makes a significant contribution to entrepreneurial failure theory by focusing exclusively on the healthcare industry. The results of this study complement existing theory in two ways: healthcare entrepreneurs’ intrinsic motivation was found to impact experience across all venture stages and negative post-failure implications could be directly related to the specific business environment. Especially emotional and social impacts of failure were experienced in ways distinct from insights generated through existing qualitative studies on entrepreneurial failure, namely feelings of remorse and pain over the missed opportunity to contribute to the improvement of healthcare as well as being the object of stigma and rejection in a social environment that was formerly dear to entrepreneurs. By conceptualising healthcare as a unique and complex business environment (McCleary et al., 2006; Elrod and Fortenberry, 2017,

Morrisey, 2018), the study posits that entrepreneurial failure in this sector has a deeper and more holistic impact on entrepreneurs' lived experiences of aftermath, recovery and longer term entrepreneurial outcomes. This is primarily due to entrepreneurs' intrinsic desire to improve healthcare which causes deeper remorse over failure. Also stronger and longer social impacts due to stigmatisation, inherent in the sector, were found that negatively affect access to funding opportunities and healthcare ecosystem decision makers and therefore obstruct re-entry.

The present research acknowledges that venture failure is a holistic experience that impacts many aspects of entrepreneurs' lives and adds to extant theory that pre-failure cognitive mechanisms, in particular entrepreneurial optimism, shape post-failure experience. The present research thus extends existing literature on failure experience (e.g. Singh et al., 2007; Corner et al., 2017) by including pre-venture experience, as shown in Figures 3.2. and 5.1. Considering failure experience of entrepreneurs across all venture stages and how these are interrelated, helps to obtain a deeper understanding of the phenomenon and makes a contribution to existing failure theory that predominantly focuses on post-failure aspects only. In line with research presented by Singh et al., 2007; Cope, 2011, Heinze, 2013 and Byrne and Shepherd, 2015, this study affirms that entrepreneurs suffer emotional, financial and social consequences as a direct result of failure and emphasises the interrelatedness of these impacts. The present research challenges theories about coping, sensemaking and learning from entrepreneurial failure. This study indicates that real-life failure recovery among participants was more erratic than stage theory of grief suggests (Kübler-Ross, 1969; Maciejewsky et al. 2007). Also, research findings are in contrast with generally accepted theories that present failure recovery as a linear process of coping, sensemaking and learning (Politis and Gabrielsson, 2009; Cardon et al., 2011; Cope, 2011; Heinze, 2013; Byrne and Shepherd, 2015; Corner et al., 2017). Instead, the present research shows that the recovery process is not homogeneous among entrepreneurs and there is no empirical evidence of any association between entrepreneurs' attitudes towards failure, coping strategies, sensemaking processes and learning. In

line with the former, no evidence was found on the relation between successful sensemaking, learning and entrepreneurs' ability and desire to re-enter into entrepreneurship as suggested by, amongst others Jenkins et al. (2014) and Mueller and Shepherd (2016).

### **6.5. Limitations of the Study**

Because venture failure can be explored from different angles, other research areas could have been focused on, which might have led to different insights. I do not think this is problematic as my central research question was deliberately broad and the literature review offered quite a comprehensive overview of relevant extant academic knowledge and turned out to correspond well with the themes that emerged from the data. As an illustration of my research choices, Mueller and Shepherd (2016) stated that much of the previous work on entrepreneurial failure focused on deciphering the causes of failure while scholarly attention recently shifted towards developing understanding of how failure affects entrepreneurs. This is precisely what I focused on. Later, this choice appeared to be supported by participants' stories that lacked reasons of failure as a distinctive theme but rather were implicitly mentioned as an element of failure experience in relation to entrepreneurial optimism and the negative connotations participants have with the healthcare industry.

Data collection was challenging due to the sensitive and rare topic under study. As argued by Jenkins and McKelvie (2016) people do not like to talk about failure and it is therefore difficult for researchers to identify a relevant sample group. It must be acknowledged that the purposive sampling method that was applied for this research was somehow opportunistic. Frankly, I expected to be able to arrange interviews within my own professional network rather quickly, but as initial attempts were unsuccessful, I had to use a snowballing technique (Hussey and Hussey, 1997; Streeton et al., 2004). Most entrepreneurs who eventually participated were still a bit reluctant to talk about failure and insisted on complete anonymity several times. The wary attitude of

participants towards the research was perhaps a limitation with regards to the level of openness and honesty. I think this problem was moderated by setting the participants at ease prior to the interviews and by sharing my own experience with venture failure, thus showing empathy and winning trust.

With respect to participants' attitudes towards healthcare, a limitation of the research that requires comment is that systemic differences exist between EU countries and this might have influenced participants' experiences and post-failure views on health systems. However, this thesis is not inherently comparative in terms of health systems and I did not intend to explore macro-level juxtapositions. Instead, with reference to the challenges I faced with finding a relevant research sample in the first place, I assumed health system challenges to be more or less similar across the EU (underpinned with the information detailed in Chapter 2) and focused on failure experience shared by entrepreneurs regardless of country or nationality. The sample group was sufficiently homogenous in terms of the business context and the phenomenon experienced and thus fitted well with the research interest.

Another possible constraint of the research is that for some participants the failure event happened recently whilst for others it took place many years ago (up to 20 years). In all cases, entrepreneurs shared retrospective reports of their failure experiences. Cope (2011, p.619) argues that "this is a constraint inherent in any retrospective research and one not easy to solve". The problem might be that entrepreneurs have an incomplete and blurred recollection of the phenomenon due to hindsight bias (Cassar and Craig, 2009). In order to moderate this constraint somehow, failure is a critical, life-altering event with impactful consequences for all the main areas of an entrepreneur's life (Shepherd, 2004) and as argued by Chell (2004, p.47) the advantage of exploring critical experiences is that "the fact that the incidents are 'critical' means that subjects usually have good recall".

Finally, as argued by Pietkiewicz and Smith (2014, p. 13) "doing an IPA study is a demanding enterprise, despite a possible illusion that using a small sample makes it easy". Investigating how venture failure, as a less explored aspect in

entrepreneurship, is experienced, given meaning and translated into action by entrepreneurs, requires a structured way of working (Berglund, 2007). Although I deliberately applied IPA for its (relative) rigour and tried to comply with the quality criteria offered by Smith (2011) and Larkin and Thompson (2012), I probably have not succeeded completely. Furthermore, I can only recognise the inevitable double hermeneutic (Smith et al., 2009) as participants first interpreted and expressed their experiences, followed by my interpretation of these interpretations. However, rather than seeing this as problematic, it allowed me to move beyond the text (Harper, 2012) and it was a basic condition for understanding failure grounded in individual experiences framed in a very particular social and industry context.

### **6.6. Areas for Further Research**

As this research focused on the holistic experience of venture failure among entrepreneurs and touched a variety of topics, found through superordinate and underlying sub-themes, logically, there is ample opportunity for further research on both isolated themes and interrelations as well as adjacent topics that have remained unexplored in this thesis. In general, research of lived experiences of failure among entrepreneurs is an area that requires further attention, and above all, needs more empirical work (Cope, 2011; Ucbasaran et al., 2013; Corner et al., 2017).

The limitations mentioned above, whether inherent in the research or not, immediately offer opportunities for further investigation. First, this research proposes that entrepreneurship is more challenging in the healthcare industry and that the impact of failure on individual entrepreneurs is more profound due to particular emotional and social impacts. The aim of the research was to provide insight into the impact and outcomes of failure from the perspectives of individual entrepreneurs. The extent to which the specific healthcare industry environment caused failure was not explored in depth. The findings showed that three (perhaps four) out of seven entrepreneurs attributed failure of their venture directly to the characteristics of the healthcare industry but they

did not go into detail with regard to the specific failure causes and circumstances. Further research that combines attribution theory (Cardon et al., 2011; Heinze, 2013), conceptualisation of failure (Jenkins and McKelvie, 2016) and the specific role of the healthcare industry, could generate interesting insights for both academics, entrepreneurs and policy makers. Second, as mentioned above, systemic differences between EU countries could be explored further although I do not expect many valuable insights from this. Instead, further to the work of Cardon et al. (2011), I recommend further research into culturally-grounded sensemaking of failure. Perhaps a comparative study between entrepreneurs from the EU and the United States would shed an interesting light on both systemic and cultural differences that impact failure experience. Third, it would be interesting to carry out a longitudinal study of failure experience following entrepreneurs over a longer time frame with the objective of determining whether lived experiences evolve over time. This would perhaps help overcome constraints related to participants' selective recollection and hindsight bias as they would have the opportunity for longer and deeper reflection, thus allowing the researcher to build a more robust appreciation of venture failure across various aspects of the entrepreneur's life, including possible new entrepreneurial endeavours.

Next to the recommendations for further research that are inextricably linked with the limitations of this study, I suggest some other avenues for inquiry. The first one has to do with the social complexity of venture failure which appeared to be a rather dominant theme in this study and therefore requires further attention. The healthcare industry constitutes a very peculiar social setting and turned out to shape negative social consequences, both short- and longer term, of failure to a great extent. As suggested by Cope (2011) and followed up by Heinze (2013), further research is needed into the social dimensions of failure with respect to impact, recovery and longer-term outcomes (e.g. re-entry). Whilst Heinze (2013) examined the role of 'important others' in terms of post-failure sensemaking and decision-making among entrepreneurs, I argue that research is needed that engages with *all* relevant parties involved in venture failure. In line with this study's assertion that venture failure might obstruct much-needed innovation in healthcare (Gottlieb and Makower, 2013;

Meindert et al., 2017; Phillips et al., 2017), whilst being aware of the challenges around selecting representative samples, I recommend research that engages with multiple stakeholders such as healthcare investors, peer entrepreneurs and clients (e.g. hospitals).

Finally, building on this research's finding that intrinsic motivation among healthcare entrepreneurs conditions venture failure experience as a whole, and the parallels with social entrepreneurs (Dacin et al., 2011, Cater III et al., 2017) and health workers (Cabin, 2008; Burks and Kobus, 2012) discussed in Chapter 5, I propose research that delves deeper into entrepreneurial intrinsic motivation by drawing on learnings from the field of social entrepreneurship (Rawhauser et al., 2019) and relevant articles published in nursing and clinician journals.

### **6.7. Implications for Healthcare Entrepreneurship Practice and Policy**

Although this study does not make any generalisable claims, the insights that were generated through the lived experiences of seven healthcare entrepreneurs, could be valuable to entrepreneurs of current and future ventures, policy makers and other stakeholders in the healthcare ecosystem. This research thus takes to heart Baker and Welter's (2017) recommendation for the field of entrepreneurship research to focus more on practical value.

As shown in this thesis, the stakes in healthcare entrepreneurship are high as they do not only revolve around venture growth and profits alone, but also around the wider objective of advancing healthcare. Innovation in healthcare is needed to improve patient outcomes and reduce cost (Burns, 2012), and most innovations come from small companies (EC, 2018b; MedTech Europe, 2019). The healthcare industry constitutes a complex political-legal and social environment (Maresova et al., 2015) which is a major challenge for entrepreneurs.

The key findings of this thesis highlight that healthcare entrepreneurs are 'special' in terms of their motives for starting a new venture, struggle with the complex business environment, and above all, that venture failure has devastating effects in terms of emotional suffering and disturbed social relations. Although the research sample is by no means representative for the entire sector, it is notable that only one out of seven research participants is still active as an entrepreneur in the healthcare industry. It is clear from the reported experience of the entrepreneurs in this study that, in contrast with studies on entrepreneurial resilience (Mueller and Shepherd, 2016; Corner et al., 2017) and learning from failure (Coelho and McClure, 2005; Cope, 2011) that draw on empirical evidence from other industries, entrepreneurs who experienced failure in the healthcare industry are not likely to become involved in future ventures due to enhanced cognitive tools and increased knowledge. I therefore propose that there is a pressing and poignant need to better support healthcare entrepreneurs across all venture stages.

First, entrepreneurs who consider establishing a new venture should think carefully about the potential consequences of failure. Although this might seem somewhat contrived and naturally contradicts with entrepreneurial optimism and confidence, the research showed that failure has significant emotional, financial and social implications - especially in the healthcare industry where failure is probably more stigmatised than in other industries - which obstructs any future attempt to start a new venture. Based on research findings and my own personal experience, in the healthcare ecosystem it is important to have a 'like knows like' network and when failure occurs, renewed entrepreneurship is likely to depend on that same network of investors, advisors and decision makers at potential clients. It would probably be very helpful for candidate entrepreneurs to exchange thoughts with entrepreneurs who experienced failure (Coelho and McClure, 2005) but this is precisely what does not happen in the healthcare industry due to stigma within the ecosystem and feelings of remorse, shame and embarrassment among failed entrepreneurs. Here lies an important task for policy makers who, rather than blindly stimulating creation of start-ups and assuming entrepreneurial success (Shane, 2009), should facilitate education for entrepreneurs, where the taboo

of entrepreneurial failure is lifted and awareness of the impact of failure in the healthcare industry is created with the help of entrepreneurs who actually experienced it. Rather than burying heads in the sand, fostering open debate and discussion between ecosystem stakeholders would be helpful.

Second, in a post-failure context, participants of this research indicated that they felt alone and could not ventilate emotions very well as they had nobody who really understood what they went through, and with the ones that did (e.g. colleague entrepreneurs) disturbed relationships did not allow for common sorrow, support and reflection. Hence, entrepreneurs who experience failure should not be left to their fate. In line with suggestions made by Cannon and Edmonson (2001) Coelho and McClure (2005) and Shepherd et al. (2009b), entrepreneurs should be able to turn to low-threshold support groups where peer entrepreneurs, perhaps supported by professional counsellors, “can provide the emotional scaffolding needed to more effectively recover from grief, allowing entrepreneurs to learn coping skills and gain the confidence to face new challenges” (Cope, 2011, p. 620). As such support groups, to the best of my knowledge, do not exist specifically for healthcare entrepreneurs, it is in the best interest of healthcare systems to invest in this, thus cherishing and supporting entrepreneurs who genuinely want to make a difference in healthcare. This will need to be done at local level. As an example of what it could look like in the Netherlands, I propose a public-private partnership led by Health Holland (Top Sector Life Sciences & Health by the Dutch Ministry of Economic Affairs) that offers a permanent support platform for health entrepreneurs. The Netherlands Chamber of Commerce, StartUp Delta, academic hospitals, NVZ (Dutch Association of General Hospitals), health insurers, investors, consultants, academics and other interested parties should participate. In order to create awareness, the internationally-attended ‘Innovation for Health’ Conference (Innovation for Health, 2020) which typically offers an agenda that focuses merely on success, should pay attention to entrepreneurial failure.

Finally, the research reveals that across all venture stages, the connotations with healthcare impacted participants’ lived experiences. Passion for

healthcare fueled their ambition to start a venture in the first place and negative connotations with healthcare played a role in how they coped with failure and possibly also explains why only one out of seven participants is still active as an entrepreneur in the healthcare industry. Policy implications might be derived from this, both on a national and EU level. Since healthcare delivery is a national competence, it is recommended that national health systems and policy makers provide better support structures across all venture stages, as described above. Furthermore, the EU should not overlook the important role of SMEs in healthcare innovation. As stated by Horgan et al. (2018, p.2) “there needs to be an increased focus on SMEs in the healthcare arena, who can adapt more quickly than multinational companies, understand the local context and be understood by the local administration, and fill the gaps and opportunities”. The research findings regarding entrepreneurs’ negative connotations with healthcare clearly indicate that small business entrepreneurs struggle with the complexity of healthcare and political decision making, and that large corporations seem to have a competitive advantage over small businesses due to their access to resources and relationships with decision makers, as explicitly stated by some of the participants. This implies that small businesses are disadvantaged in the highly regulated and bureaucratized health systems they operate in. Whilst the EU and national governments acknowledge the necessity of bringing innovation into healthcare, and the willingness of SMEs to undertake the risk to be at the forefront of it, there is a lack of support resulting in a competitive disadvantage for small innovative healthcare businesses. As stated by Horgan et al. (2018) there is no one-size-fits-all solution for supporting small businesses that are active in health innovation, but the EU and Member States should align on the implementation of support frameworks for SMEs, enable easier access to funding, create a level playing field through making healthcare data equally available to both large corporations and SMEs, ensure guidelines and standards for interoperability among which harmonised health technology assessment, that will make it easier for small businesses to sell their solutions across the EU and enable innovation through the implementation and enforcement of single market internal rules. By doing this, EU and Member State policies will encourage new health-tech start-ups to be established and

support the scale-up of existing SMEs by fostering a dynamic business environment that facilitates entrepreneurship and enables firms of all sizes to reach their full potential. Better integration in regional, EU and global markets and value chains is a prerequisite for SME health entrepreneurship success (Horgan et al, 2018, p.10).

## **6.8. Final Reflections**

My personal learnings as an entrepreneur very much correspond with the practical implications that I outlined above. Congruent with entrepreneurial optimism theory, I relied too much on my intuition: my decision to join a start-up was based on excitement and unrealistic future perspectives rather than rational argumentation. Of course, I was aware that the probability of failure for any new venture is high but nevertheless I was eager to start the adventure and was very confident that it would be successful. I underestimated the impact that failure could have on relationships with my peer entrepreneurs and other stakeholders I worked with and must conclude today that these relationships barely exist anymore.

In contrast, as a researcher I learned a lot about the dynamics of start-up companies in the healthcare industry and the lived experiences of entrepreneurs who had to deal with venture failure. I would even say that my personal reflection and learning of venture failure would probably have remained neglected, would I not have carried out academic research on the topic. On the other hand, perhaps I did not pay enough attention to the potential contributions to theory and practice when I formulated the research questions for my thesis. Above all, I was simply interested in understanding failure experiences among entrepreneurs. Although having failure experience myself helped me to engage with participants - perhaps it prevented me from taking on a more distant, traditional role as a researcher, as I found the interaction with participants awkward at times.

Reflecting on my DBA journey, I experienced it as challenging, academically, professionally, and personally. However, learning to navigate the interrelatedness of all aspects of venture failure in the healthcare industry was very rewarding, and I am pleased to have made some contribution to the bodies of academic and practical knowledge. I look forward to sharing my insights with practitioners and academics during informal conversations and consider further contributions to practice by fostering attention for entrepreneurial failure during healthcare innovation conferences and perhaps publications in forums and LinkedIn groups for reaching a large audience interested in entrepreneurship.

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## **APPENDIX 1. – Participant Consent Form**

[...]

Dear ...,

Thank you for agreeing to participate in this study. This form details the purpose of this study, a description of the involvement required and your rights as a participant.

The purpose of this study is:

- to gain insight into what it's like to experience venture failure in the healthcare industry.

The benefits of the research will be:

- To better understand failure experience among healthcare entrepreneurs.
- To identify significant processes or perceptions that shape failure experience and could be of benefit to academic theory and entrepreneurship practice.

The method that will be used to meet this purpose includes:

- One-on-one interviews, preferably face-to-face or alternatively via Skype or telephone. The duration is expected to be approximately 1,5 hours or longer when needed. A second discussion might take place - subject to your agreement.

You are encouraged to ask questions or raise concerns at any time about the nature of the study or the methods I am using. Please contact me at any time at the e-mail address or telephone number listed above.

The interview(s) will be audio recorded to help me accurately capture your insights in your own words. The audio file will only be heard by me for the purpose of this study. If you feel uncomfortable with the recorder, you may ask that it be turned off at any time.

You also have the right to withdraw from the study at any time. In the event you choose to withdraw from the study all information you provide (including audio files) will be destroyed and omitted from the final thesis.

Insights gathered through you and other participants will be used in writing a qualitative research report, which will be read by my supervisors, presented to examiners and made available through the online repository of the University of Bradford. Though direct quotes from you may be used in the thesis, your name and other identifying information will be kept anonymous. The same goes for any information that might refer to your company, clients, business partners, or others mentioned by you during the interview(s).

By signing this consent form, I certify that I \_\_\_\_\_ agree to  
(Print full name here)  
the terms of this agreement.

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Date)

## **APPENDIX 2. – Interview Prompt Sheet**

*With reference to Biggerstaff and Thompson (2008)*

**Opening Question:** ‘Can you tell me about your venture and the venture failure?’ (let participant determine course of the conversation but try to cover below themes).

**Main Themes (bold) for Discussion:** (themes derived from review of existing literature)

<p><b>Central Question (RQ1)</b> How do <u>healthcare</u> entrepreneurs experience and make sense of failure of their ventures?</p>		
<ul style="list-style-type: none"> <li>• <b>Key challenges for entrepreneurs in the healthcare industry</b> <ul style="list-style-type: none"> <li>○ Complexity of health systems</li> <li>○ Regulation</li> <li>○ Financing</li> <li>○ Support?</li> </ul> </li> <li>[Venture failure]</li> <li>• <b>Recovering from failure</b> <ul style="list-style-type: none"> <li>○ Coping</li> <li>○ Sensemaking</li> <li>○ Learning</li> <li>○ Post-failure outcomes                             <ul style="list-style-type: none"> <li>- Self-confidence/ self-esteem</li> <li>- Professional life (new venture?)</li> <li>- Private life</li> </ul> </li> </ul> </li> </ul>	<p><b>Sub-question (RQ1a)</b> How does entrepreneurial optimism relate to the experience of venture failure?</p> <ul style="list-style-type: none"> <li>• Expectations at start</li> <li>• <b>(Over)optimism?</b></li> <li>• (Over)confidence?</li> <li>• Other cognitive mechanisms?</li> <li>• <b>Planned for failure?</b></li> </ul>	<p><b>Sub-question (RQ1b)</b> How is the impact of failure conceptualised / perceived by healthcare entrepreneurs?</p> <ul style="list-style-type: none"> <li>• Detrimental?</li> <li>• Complex?</li> <li>• Ambivalent experience?</li> <li>• <b>Aftermath</b> <ul style="list-style-type: none"> <li>○ Financial</li> <li>○ Social                             <ul style="list-style-type: none"> <li>- Self-stigmatisation</li> <li>- Social stigmatisation</li> </ul> </li> <li>○ Emotional</li> <li>○ Physical</li> <li>○ Interrelations between the above?</li> </ul> </li> </ul>

### APPENDIX 3. – Worked Example of Final Structure Showing One Superordinate Theme

Superordinate theme	Participants contributing to this theme	Subthemes	Participants contributing to this sub-theme	Key cross-references	Indicative quotes	Notes
Love-hate relationship with healthcare	All	<b>Positive connotations</b>	Annette, Dieter, Erik, Jan,	A89, A121; D41, D72, E168,	"I'm loving it" (Dieter)	Use in thesis.
		Attitudes towards healthcare: passion / interesting / rewarding / promising	Ludo, Matthieu, Peter	E193; J66, J100; L178, L212; M266, M287; P97, P111	"I'm convinced about the opportunities that lie ahead (Ludo) "New entrepreneurial ideas give me hope for advancing patient care. I think that's what makes it rewarding" (Matthieu) "There are plenty of opportunities for making a difference" (Ludo) "I just believe it is about helping patients, that's my calling" (Jan)	Mention relationship with entrepreneurial optimism. Stress intrinsic motivation.
		<b>Negative connotations</b>	Annette, Dieter, Erik, Jan,	A77, A134; D34, D60, D63;	"It's like people are not moving	Use in thesis.
		Attitudes towards healthcare: challenging/ aversion / frustrating / annoying / (too) complex/ uncertain business environment	Ludo, Matthieu, Peter	E150, E170, E188; J81, J95; L154, L177; M243, M255; P106, P124	in the same direction when it's needed" (Annette) "For small entrepreneurs it is very complicated" (Peter) "...always talking about value, about value-based healthcare but at the end of the day...it frustrates me" (Erik) ..and all the compliance stuff, gosh, I wish it was different, yes, it's a big challenge" (Dieter) "It's like wading through treacle" (Ludo)	All participants were explicit about challenges of working in the healthcare industry, some stronger than others.
		<b>Ambiguous attitude</b>	Dieter, Erik, Ludo, Matthieu	A85, E200, L173, L160, M241	"The healthcare industry, I can't live with it , can't live without it, haha" (Ludo)	Leave out as hard to interpret/ meaning unclear but mention ambiguity in thesis. Dilemma/ tension between love and hate. (mention this)

#### **APPENDIX 4. – List of Superordinate Themes and Associated Cross-case Sub-themes**

<b><u>Early Stage Optimism</u></b>	<b><u>Aftermath</u></b>	<b><u>Resuming Life</u></b>	<b><u>Love-hate Relationship with Healthcare</u></b>
Belief in value of product/ service	<b>Emotional impact</b>	<b>Coping with immediate aftermath effects</b>	Positive associations with healthcare industry / system
Excitement	Grief	<b>Sensemaking / meaning-making</b>	Negative associations with healthcare industry/ system
Confidence	Anger	<b>(longer-term) Outcomes</b>	Affection/ passion for patient care
Genuine optimism	Shame	Re-entry or refrain from entrepreneurship	
Pretended optimism	Guilt feelings	Long-term impact on private life	
Passion for healthcare	<b>Financial impact</b>	Recovery is not a linear process	
Hindsight bias	<b>Social impact</b>	Long-term impact with respect to professional relationships	
Unrealistic optimism not acknowledged	Impact on professional relationships		
	Impact on private relationships		
	Self-stigma		

