Table of Contents

Appendix

1 Introduction

The first chapter serves as an introduction to the topic by providing background information and the problem statement. Further on, the purpose of the thesis and the research questions will be presented, followed by an overview of definitions of frequently used terms and abbreviations.

1.1 Background

As the world's population is increasing, the global challenges become more and more multifarious. Whereas a hundred years ago, national governments were expected to represent the problem-solving mechanism, "today, our societal challenges - in education, health, or the environment - demand innovation from many directions" (Guo & Bielefeld, 2014, p.12).

Economic growth depends on technological progress, and the non-rival nature of scientific knowledge, generated by research and development, implies that institutions beyond competitive markets are required to promote innovation. Entrepreneurship spurs innovation, which leads to economic growth (Kremer & Williams, 2010). Stevenson (1985) describes the core of entrepreneurship as the "the process of committing to an opportunity, gaining control over the resources, managing the network of resources […], and the way in which participants are rewarded" (cited in Austin, Stevenson & Wei-Skillern, 2006, p. 4). Furthermore, Sahlman (1996) suggests that for successful entrepreneurship "the people, the context, the deal, and the opportunity" must constantly be adapted to the changing environment (cited in Austin et. al, 2006, p. 4). Individuals that practice entrepreneurship are referred to as entrepreneurs. An entrepreneur identifies a current need and aims to fill it (Nelson, 2012). What motivates people to act entrepreneurial, is both necessity as well as opportunity (Global Entrepreneurship Monitor, 2015).

Looking at the oil clean-up industry, it is one example where innovation is demanded for the future of society but incentives are low to invest in radical technological innovation. A yearly estimate of 760 million litres of industrially produced oil pollutes the oceans and jeopardises the nature, and in turn the future of humankind. An even more significant case is the oil spill disaster of 2010 when more than 780 million litres of crude oil poisoned the Gulf of Mexico due to an accident on the BP Deepwater Horizon Oil rig (MacKenzie, 2011).

Currently there appears to be no incentives for oil producing companies to invest into their own technology that may be used to clean-up oil from the ocean. In case of oil spills, no matter the magnitude, oil companies hire so-called oil spill response organisations to clean-up for them. Those service providers, however, work on an hourly-payment basis and are therefore not interested in new technology that speeds up the process (MacKenzie, 2011).

A philanthropist that realised the need for a quicker and more efficient solution at that time was Wendy Schmidt, wife to Google's executive chairman, Eric Schmidt, and president of the Schmidt Family Foundation. In cooperation with the U.S.-based non-profit organisation XPrize, Schmidt announced the Wendy Schmidt Oil Cleanup XChallenge (WSOCXC) in 2010/2011. The XPrize Challenge is an innovation competition with the goal to redesign existing oil clean-up solutions to at least double the rate per minute at which machines currently clear the water from crude oil. As an incentive to participate, XPrize awards a prize money of one million US Dollars for the winner and 300.000 US Dollars for the second best solution. This should be incentive for all creative minds to look outside the box and be innovative (MacKenzie, 2011).

Taking the anticipated research and development costs per team, and the industry's future financial prospects into consideration one might ask, applying Stevenson's (1985) requirement of positive rewards for the participant (cited in Austin et al., 2006), why 350 teams registered for the challenge and 27 of those formally entered the contest (Diamandis & Kotler, 2015, p. 538) even though the prospects were rather negative.

Diamandis and Kotler (2015) outline three motivators that drive teams or individuals to take part in innovation competitions. Motivational factors may comprise the strive for recognition, financial aspects, frustration over global problems such as environmental pollution or illiteracy in developing countries (Diamandis & Kotler, 2015, p. 562). Based on this range of incentives and drivers, the diversity of contestants varied from individuals that never worked in the field of question before, to multinational corporations with years of experience and extensive networks of expertise (Diamandis & Kotler, 2015, p. 541).

The more interesting part, however, seems to be that nine out of the ten final teams, that got to test their prototypes, appear to have turned into sustainable businesses after the

challenge. What makes contestants, that did not win the challenge, continue in an industry with rather negative financial prospects, if, according to Venkataraman (1997), an entrepreneur should only pursue a business activity if the financial prospects are positive? According to Linán (2008, p. 258), there is currently no "widely accepted instrument to measure entrepreneurial intentions".

1.2 Problem Statement

Motivational factors, such as potential financial gain, publicity and a possibility to increase reputation (Murray, Stern, Campbell & MacCormack, 2012), refer to elements that enhance, lead and uphold the behaviour of an individual or a group (Perry & Porter, 1982). An extensive amount of research has been conducted regarding what factors increase motivation (e.g. Hennessey & Amabile, 1998; Miller & Hom, 1990). However, despite the existing knowledge regarding how to increase motivation, little research considers motivation in the context of innovation competitions. Innovation competitions prompt, through, often financial, rewards and incentives, individuals and organisations to strive to reach new innovational heights (MacCormack, Murray & Wagner, 2013). However, only the top ranking contestants receive the prize, therefore, the prospect of gaining financial rewards as a direct result of participation is rather slim (Murray et al., 2012). The narrow chance of winning the prize money suggests that there are other motivators for individuals and organisations to partake in an innovation competition. Research on the subject has been conducted; however, this research does not seem to have uncovered all the motivational factors behind the decision to participate. Furthermore, little information can be found regarding what happens to the participants who do not succeed in winning the reward. Do they continue business, and more importantly – if they do, what motivates them to do so? This study sets out to discover if the winner of an innovation competition really does take it all, or if innovation competitions can create motivations for continued business, even for the losing contestants.

Through a deeper understanding of what motivates losing contestants to sustain their business after the conclusion of the challenge, contestants are enabled to attain measures to assure continued business. In turn, the chances of finding additional, new solutions to current, social or commercial issues can be increased. Furthermore, since financial rewards are not the sole reason for entering innovation competitions (Murray et al., 2012), increased knowledge, regarding both motivational factors and the events after the distri-

bution of rewards, can aid foundations in designing the contest in a fashion, that will create continuous motivation even after the event has been concluded.

Additionally, a deeper understanding of the subject can be beneficial not only for the foundation organising the contest and for the contestants; it can also be beneficial for the sponsors supporting the competition. Certainty, that the invested money is allocated in the way that best serves the sponsors' interests and goals, can be increased. Additionally, increased knowledge regarding the aftermath of such competitions, can increase the chances of finding continuous motivators, which will in turn foster the possibility of new innovations and entrepreneurial activities that can solve issues throughout the world.

1.3 Purpose of the Study

The purpose of this thesis is to investigate factors that motivate entrepreneurs to enter into an innovation competition as well as the motivation for continuing business afterwards. This thesis will explore the different phases of entrepreneurship related to the partaking in an innovation competition. By doing so, the authors aim to contribute to research in the field of entrepreneurship that highlights the importance of innovation competitions.

The different phases of motivation for entrepreneurship will be analysed, using the model of entrepreneurial motivation, developed by Naffziger, Hornsby and Kuratko (1994). In their paper, Naffziger et al. (1994) provide an enlarged view on entrepreneurship. This expanded view includes the entire entrepreneurship process; beginning with the decision to behave entrepreneurially, and further describing the behaviours necessary for operating the business, the performance of the company and the psychological outcomes from managing the business (Naffziger et al., 1994).

Additionally, the empirical findings will be analysed using Gimeno, Folta, Cooper and Woo's (1997) threshold model. The model presents the idea of a threshold of entrepreneurial practices, where the threshold is specified as "the level of performance below which the dominant organizational constituents will act to dissolve the organization" (Gimeno et al., 1997, p. 750). The threshold model can help explain why some companies survive while others do not.

1.4 Research Questions

The following research questions will be answered in order to fulfil the purpose of this thesis:

- *What factors motivate entrepreneurs to take part in an innovation competition?*
- *What are the main motivators for continuing business after participation in an innovation competition?*

1.5 Delimitations

To answer our research questions, an understanding of entrepreneurial activities, and the motivators for them, is essential. In order to provide this to the reader, the authors decided to present the subject through a funnel approach.

Furthermore, in the wide selection of innovation competitions, the authors decided to focus on the XPrize Foundation. This is partly due to the large amount of research conducted on the contest (e.g. Murray et al., 2012; MacCormack et al., 2013; Mossman, 2008), and partly due to the company being one of the leading organisers of innovation competitions (Diamandis, *About XPrize,* 2015).

Since the aim of this thesis partly is to conclude what happens after an innovation competition has been concluded, the selection of XPrize contests is limited. The authors decided to conduct the study based on the Wendy Schmidt Oil Cleanup XChallenge, this is due to the number of years that has passed since the end of the competition. Since the study considers continuous motivators, it is essential that the contest was concluded a number of years ago. However, the more time that passes, the motivational factors will be increasingly influenced by other aspects, and therefore, the authors saw the need to select a contest that did not occur more than five years back in history.

Furthermore, with regards to the second research question, the main focus will lie upon the participants who did not win the competition. After the competition has drawn to a close, the prospects of the losing contestants should differ from that of the winner, since they did not receive the grand prize. As a result, their motivations for continuing business might no longer solemnly rest upon financial means.

1.6 Definitions

BP Deepwater Horizon oil spill: An oil spill that occurred in 2010, which, due to an explosion at the BP Deepwater Horizon oil rig, led to over 780 million litres of crude oil spilling out into the Gulf of Mexico (MacKenzie, 2011).

BP p.l.c.: An oil and gas company, formerly known as British Petroleum (Stolberg, 2010).

Entrepreneurship: The process of identification of opportunities, resource allocation and value creation (Lupşa-Tătaru, 2014).

Exxon Valdez oil spill: A 1989 oil spill, which occurred in the Prince William Sound, Alaska, U.S.A. (Peterson, Rice, Short, Elser, Bodkin, Ballachey & Irons, 2003).

Innovation: The emergence and realisation of ideas and practises (Smith, 2013).

Innovation competitions: Competitions that, through rewards and incentives, prompt individuals and organisations to strive to reach new innovational heights (MacCormack et al., 2013).

Marine Spill Response Corp.: A not-for-profit oil spill response service created by American oil producing companies in 1990 (MSRC, 2015).

National Oil Spill Response Research & Renewable Energy Test Facility: One of the world's largest testing facilities for oil spill clean-up technologies (OHMSETT, 2015).

Wendy Schmidt Oil Cleanup XChallenge: An innovation competition founded by Wendy Schmidt and the XPrize Foundation as a response to the BP Deepwater Horizon oil spill in 2010. The aim of the competition was to find more efficient solutions for oil removal from the ocean surface as well as to increase performance of existing technologies (Herox, *XPrize Case studies*, 2015).

XPrize: A U.S.-based non-profit organisation, founded by Peter Diamandis (XPrize, *Who we are*, 2015). The XPrize Foundation is one of the world's leading organisers of innovation competitions (Diamandis, *About XPrize,* 2015).

1.7 List of Abbreviations

MSRC	Marine Spill Response Corp.
OHMSETT	National Oil Spill Response Research & Renewable Energy Test Facility (Former: Oil and Hazardous Materials Simulated Environmental Test Tank)
ORE	Oil Recovery Efficiency
ORR	Oil Recovery Rate
ROM	Rough Order-of-Magnitude
WSOCXC	Wendy Schmidt Oil Cleanup XChallenge

2 Frame of Reference

This chapter will form a frame of reference by providing extensive information about the topic areas. Additionally, the theories, which later will be used to analyse the cases, are presented.

2.1 Entrepreneurship

Entrepreneurship has been described as a "phenomenon which is most emphasized yet least understood by economists" (Kanbur, cited in Herbert & Link, 1988, p. xvii). The word itself derives from the French word *'entreprendre',* meaning, 'to undertake' (Ahmad & Seymore, 2008), however, countless definitions regarding the subject have been offered. Hirshleifer (1976) defines entrepreneurship as nothing else than the convergence of business decision-making and proprietorship. A more narrow definition, which this thesis will rely upon, is provided by Lupşa-Tătaru (2014), who defines entrepreneurship as a process of identification of opportunities, resource allocation and value creation. One of the most common approaches in defining practitioners of entrepreneurship is by entrepreneurs being those who identify a need and then continue to fill it (Nelson, 2012). This definition concurs with Schumpeter's thoughts regarding the matter – that entrepreneurs change the way of doing things through creation of new, innovative organisations (Smith, 2013).

At the heart of the entrepreneurial process we find innovation (Drucker, 1998) - the emergence and realisation of ideas and practises (Smith, 2013). Innovation often spurs entrepreneurial activity through new products, services, business models, organisational forms or technological breakthroughs, and the ability to be innovative is often crucial to an organisation's survival and success (Snow, 2007).

It is often argued that start-ups are more innovative than established companies; some even claim that newly-started businesses engage in creative destruction by introducing new products that disrupt the position of established organisations (Criscuolo, Nicolaou & Salter, 2012). Studies show that most new entrepreneurial businesses bring new products to the market (Global Entrepreneurship Monitor, 2015). However, not enough research has been conducted in order to determine if starts-ups are more innovative than already established businesses (Criscuolo et al., 2012).

The reasons why innovation is crucial for businesses are multifarious. The invention of new products can provide an organisation with new opportunities and competitive

advantages, and thus increase profit (Langowitz, 1991). Furthermore, innovation can be motivated through a desire to create social good; to secure the environment and its resources for generations to come. Environmental innovation does not only have the potential to increase sustainability, it can also increase the competitiveness of a business (Yarahmadi & Higgins, 2012).

2.1.1 Factors that Motivate Entrepreneurs

Entrepreneurship is concerned with creating a profitable business (Austin et al., 2006) as well as with a will to maximise profits (Estrin, Mickiewicz & Stephan, 2013). Furthermore, it has been suggested that newly-started entrepreneurial activities are motivated through two different factors – necessity and opportunity. The Global Entrepreneurship Monitor (2015) defines a necessity-driven entrepreneur as an individual who engages in entrepreneurial activities due to a lack of other sources of income. The most common driver for entrepreneurs is, however, the identification of an opportunity in a market (Global Entrepreneurship Monitor, 2015). This correlates with the common definition of an entrepreneur as an individual who identifies a need and tries to fill it (Nelson, 2012). This entrepreneurial style is motivated by a desire for an increased financial income or a need to be more independent (Global Entrepreneurship Monitor, 2015). Other motivators for entrepreneurship include a need for achievement, dissatisfaction in work environment and a want to transform the world of work (Kirkwood, 2009).

Eventually, start-ups will, if business is continued, progress into established businesses. When it comes to transforming the entrepreneurial activity into an established business, an organisational purpose, or a motivational force that guides and moves an organisation towards a goal, is needed (Reyes & Kleiner, 1990). The overall purpose, or motivation, for an organisation is to attain sustainable performance, as this will strengthen the company's resilience and ability to endure pressures and times of difficulty (McGurk & Baron, 2012). Furthermore, Reyes & Kleiner (1990) claim that a common motivator for established businesses is to create sufficient financial returns.

Innovation and entrepreneurial activities within a company are motivated by the increased level of competition that organisations face in their daily operations. As rivals develop their products and organisational aspects, further innovation and entrepreneurial activity is needed in order to stay competitive within the market (Donald & Bruckner Coles, 2004). An established company's ability to motivate innovation and

entrepreneurial behaviour is therefore crucial both for acquiring competitive advantages and for the success of the business (Christensen, 2006). However, it is not only the desire for success in business that drives entrepreneurs to engage in innovation. Schumpeter (1934, p. 89-94) claims that the potential gain of private property cannot solely explain innovative activities. He argues that the most independent factor in the innovative process is behavioural traits, such as the will of an individual, the pleasure to create and the fulfilment of tasks. Bhaduri and Kumar (2011) support Schumpeter's reasoning through emphasising the importance of intrinsic motivators with regards to innovative activities. Additionally, the authors also highlight joy of work, confidence, autonomy and duty as possible motivators for innovation.

However, not all entrepreneurs succeed. Between 2012 and 2013, 9.7% of British businesses discontinued their operations (Office for National Statistics, 2014). The discontinuation rate provided by the Office for National Statistics (2014) does, however, only include business deaths, yet, this is not the only way for an entrepreneur to end operations. A common way of discontinuing business is through being acquired by a larger company. This does not only allow an entrepreneur to discontinue her operations, it also provides the acquirer with an opportunity to attain new knowledge and increase innovation; this can explain why acquisition has become increasingly popular over the last decades (Christensen, 2006).

There are several reasons why entrepreneurs decide to discontinue their business. According to the Global Entrepreneurship Monitor (2015), the most common reason for newly-started organisations to end their activities is due to the business being unprofitable. Furthermore, a large amount of failed entrepreneurs claim that issues in receiving financial means is a reason for their discontinuation of business (Global Entrepreneurship Monitor, 2015). Contrariwise, Brodsky (1995) argues that undercapitalisation is not the reason for failure as often as entrepreneurs claim it to be. He, instead, argues that shortages of financial assets often is due to overspending by the entrepreneur herself, and not a result of a lack of receiving financial means. Other motivations for discontinuing operations include personal reasons, another business opportunity, retirement and a possibility to sell the business (Global Entrepreneurship Monitor, 2015).

2.2 Innovation Competitions

An increased number of businesses is turning to innovation competitions to promote solutions for complex problems (MacCormack et al., 2013). These competitions are challenges in which an organiser provides contestants with a problem in a given field. The participants then use their personal abilities, experiences and creativity to provide a solution for the issue (Bullinger, Neyer, Rass & Möslein, 2010). The contests allow the organisers to benefit from innovators with different backgrounds who possess diverse abilities, perspectives and experiences, and through this, innovation can be encouraged. Furthermore, due to the nature of the competitions, several different solutions are offered to the problem, and this increases the likeliness of a significant breakthrough (MacCormack et al., 2013).

Innovation competitions are no invention of the 21st century – historically, competitions to spur new ideas and inventions have been popular (Feder, 2010). In 1714, the British government offered a prize for the precise measurement of longitude. Additionally, a 12,000 Franc award was offered by Napoleon in 1795 in order to invent an effective process for food preservation, the result – airtight food canning (MacCormack et al., 2013). During the 19th century, the use of innovation competition decreased, however, today, an extensive amount of organisations use innovation competitions as an aid in finding solutions for a variety of issues (Murray et al., 2012).

The organisers of an innovation competition can be both individuals and organisations. Similarly, contestants can enter the competition as a team or as an individual person; it all depends on the rules of the contest. Who enters the competition also differs; some contests have unspecific target groups, in which everyone is allowed to participate. Other competitions have specific target groups and therefore require participants to possess distinct competencies in order to enter (Bullinger et al., 2010).

The common structure of an innovation competition is rather simple. An organiser targets a more or less specified target group and proceeds to publish a challenge. Participants then submit their solutions, which will be evaluated by a jury of experts. After the jury has evaluated all the results, a winner is chosen and granted a prize, usually in the form of money or other assets (Haller, Bullinger & Möslein, 2011).

Within innovation competitions, innovation is spurred through a reward system adapted to the needs of the participants. The rewards offered, can be both monetary and quasi-monetary, but also non-monetary, in the form of reputation, self-realisation and feedback (Bullinger et al. 2010). It is often assumed that the main motivator for entering an innovation competition is the potential financial prize (Murray et al., 2012). Furthermore, it has also been argued that it is the size of the prize that determines how much a participant is willing to invest into the project (Gallini & Scotchmer, 2002). However, research conducted by Murray et al. (2012) reveals that the potential of winning the competition, and thus receiving the prize, is not the primary reason for participation, the main motivators for competing teams are instead publicity, helping the environment and having fun. Furthermore, the authors present additional motivators, such as gaining reputation, reaching new markets and networking, as well as learning and receiving feedback from the expert judges.

As can be seen, research regarding what motivates entrepreneurs to enter innovation competitions has been done, however, little or no research has covered the subject of what happens when the competition has ended. Furthermore, research on what happens to the losing contestants, and their products, after the contest is scarce. Likewise, there is a lack of research regarding whether there are any differences between participants who are successful in their operations after the competition, and those who are not. The research will attempt to address this gap by studying entrepreneurial motivation in the context of the WSOCXC.

2.3 The Oil Clean-up Industry

The extensive need for new technology in the area of oil spill clean-up is based on the fact that since the Exxon Valdez spill in 1989, there have been no considerable improvements in technology. Furthermore, one should not only consider the past disasters but also the threat of new spills that can happen every day (Herox, *XPrize Case studies*, 2015).

To answer the question of why the technology has not improved for more than 20 years, one has to consider that the market incentives are rather low in the oil clean-up industry and despite that, research, development and testing of new technologies is related to prohibitively high costs (Herox, *XPrize Case studies*, 2015). In a situation, where there

are seemingly no incentives for improvement for the oil producing enterprises themselves, and where clean-up companies get paid independently from their efficiency, the WSOCXC represents an effort to increase both the current technology's efficiency as well as speed (Herox, *XPrize Case studies*, 2015).

As a result of the Exxon Valdez oil spill in 1989, the American Congress passed the Oil Pollution Act of 1990, which states that "each responsible party for a vessel or a facility from which oil is discharged, or which poses the substantial threat of a discharge of oil, into or upon the navigable waters or adjoining shorelines or the exclusive economic zone is liable for the removal costs and damages […] that result from such incident" (Oil Pollution Act, 33 U.S.C. §2702). In the case of the 2010 disaster, this responsibility incurred BP costs of more than 14 billion US Dollars for clean-up operations (Ramseur & Hagerty, 2014, p.6).

Firstly, rather than investing individually into oil clean-up equipment and offshore spill personnel, in 1990, American oil producing companies formed the not-for-profit Marine Spill Response Corp. (MSRC), to offer spill response services and alleviate damage to the environment (Stephens & Flaherty, 2010). Having done so, the membership fulfilled the minimum governmental requirements for oil-producing companies of accessibility to functional clean-up equipment (Stephens & Flaherty, 2010). However, the response ability after the disaster in 2010 revealed that the corporation's capacities could not handle a spill of that extent. Nevertheless, parts of the responsibility could now be projected onto the corporation. This lack of governmental enforcement of appropriate application of the requirements enabled this insufficient preparation for the worst-case scenario (Stephens & Flaherty, 2010).

Furthermore, additional support was allocated by the "Vessel's of Opportunity program", which supplied residents, affected by the oil spill in 2010, with an additional income. Here, private vessel owners enabled support activities in skimming, booming and transportation, for a compensation of 1200 to 3000 US Dollars per day and vessel (National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling, 2011). Providing payment on a basis which is independent from efficiency or speed of the clean-up activity, is a clear indicator that the motivation to improve those factors was low.

2.3.1 How the Oil Spill Disaster Underlines the Oil Clean-up Industry's Potential as a Business Sector

The national commission's (2011) report clearly indicates, that the most controversial part of technology discussion, was the decision of whether or not to use chemical dispersants instead of mechanical solutions. Choosing between insufficiently investigated novel mechanical methods and spreading chemicals on the water surface was regarded as a "trade-off of bad choices" (National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling, 2011, p. 143). Even though dispersants represent an alternative to skimming or burning in case of bad weather, the potential threats were not explored to the full extent yet (National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling, 2011). This insecurity in suitable and sustainable mechanical solutions opens the window of opportunity for innovation and further research.

Another potential incentive that was addressed by the national commission on the indications of the oil spill disaster (2011), was the discernment that the effort of academic research in the oil and gas industry nearly ended three decades ago and left an extensive gap in the current scientific knowledge. In light of the unsatisfactory investment in clean-up technology that was made by the five major oil producing companies, the commission emphasised once more their disagreement with the opinion that research should be more focused on prevention than on response technology based on the level of efficiency. However, the commission's demand for increased research investment not only pointed at the industry but also towards respective government agencies (Kirchgaessner, 2010). It was the call for "large-scale rescue, response, and containment capabilities […] including full- scale field exercises and international cooperation" (National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling, 2011, pp 243-244).

Furthermore, Tad Patzek, chair of the University of Texas's Department of Petroleum and Geosystems Engineering, emphasised the industry's dependency on external contractors to close the safety gap and the herewith related challenges and conflicts (National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling, 2011, p. 229). Even though the Oil Pollution Act of 1990 stated unlimited liability for removal costs, at that time a company's liability for offshore-damages was capped to 75 million US Dollars. As the result of the devastating costs caused by the BP oil spill, the U.S.

Congress considered to entirely eliminate this cap (National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling, 2011). Facing the threat of suddenly having to reimburse the full costs of oil spill consequences might provide an additional incentive for oil producing companies to invest into company-own solutions of oil clean-up equipment. This will, in turn, enable them to control the clean-up process by themselves and therefore limit the arising damages. The 2011 final report further recommends that "changes in […] containment and clean-up technology, preparedness, […] will be required if deep water energy operations are to be pursued in the Gulf - or elsewhere" (Ramseur & Hagerty, 2014, p. 9).

Finally, one important factor is that, at the current state of technology, only a fraction of the spilled oil could be collected for re-use (National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling, 2011). This implies an extensive loss in raw material in addition to the arising costs of damages. If technology innovation would create opportunities for oil producing companies to re-use the spilled oil to a greater extent, this might serve as an incentive for those companies to purchase or invest into new clean-up technology.

The above cases show that even though, at the first glance the prospects of the oil clean-up industry seemed rather limited, the disaster also opened up for new windows of opportunity related to the technology brought up during the WSOCXC.

2.4 The XPrize Foundation

XPrize is a U.S.-based non-profit organisation with a social-entrepreneurial orientation, which initiates innovation prizes in various challenges. XPrize describes itself as "an innovation engine. A facilitator of exponential change. A catalyst for the benefit of humanity" (XPrize, *Who we are*, 2015). Compared to charity organisations, social entrepreneurs aim to find solutions for problems rather than alleviating their consequences, and empower people to help themselves instead of trying to take care of them (Dees, 2012). One tool that reaches increasing importance in this field is the creation of innovation competitions such as the WSOCXC in 2010/2011.

Innovation competitions "set a clear, measurable, and objective goal and offer a large prize to the first person to achieve it" (Diamandis & Kotler, 2015, p. 520). They offer

the potential to foster innovation and find solutions that seemed to be impossible at first (Diamandis & Kotler, 2015).

According to Peter Diamandis, the founder of XPrize, and Steven Kotler (2015, p. 573) the goal of an innovation prize is, amongst others, to lay the foundation of a new industry. Not only the specific problem should be solved by the end of the competition, innovation and breakthroughs that were achieved, should support the creation of a new industry with innovative products and services.

2.4.1 The Wendy Schmidt Oil Cleanup XChallenge

The challenge was designed as a result of the disastrous results of the BP oil spill in April 2010. The goal was to re-design existing spill removal techniques, find more efficient solutions to remove oil from the ocean surface and increase performance of existing skimmer/boom systems technology (Herox, *XPrize Case studies*, 2015). The use of traditional clean-up methods only achieved to remove less than 50 per cent of the oil. Therefore, the challenge was to, at least, double the amount of oil recovered per minute and to reach an Oil Recovery Efficiency Rate of minimum 70%. A grand prize of one million US Dollars for the winner, 300.000 US Dollars for the second and 100.000 US Dollars for the third place should arouse the necessary motivation (Diamandis & Kotler, 2015, p. 537).

In the first phase of the competition, the teams would present their designs to judges, who selected the ten most promising plans (Herox, *XPrize Case studies*, 2015). The decision was based on: "feasibility, commercialization plan, the ability of the technology to improve over the baseline of performance, the ROM cost of approach, the ability to minimize negative environmental impact, and the ability to deploy the system during the testing phase of the competition" (Herox, *XPrize Case studies*, 2015). Those ten teams then received the opportunity to test their prototypes at the National Oil Spill Response Research & Renewable Energy Test Facility (OHMSETT), evaluated on the achieved Oil Recovery Efficiency (ORE) and Oil Recovery Rate (ORR) (Herox, *XPrize Case studies*, 2015).

More than 350 teams worldwide registered for the challenge. In April 2011, 27 of those teams, finally handed in finished designs (Diamandis & Kotler, 2015, p. 538). Finally, an American company, Elastec/American Marine, won the one million US Dollars prize

by achieving 4670 gallons of oil per minute to be recovered (ORR) at an 89,5 per cent efficiency rate (ORE). Those results in fact increased the ORR by four times (Diamandis & Kotler, 2015, p. 540).

By examining the WSOCXC the authors aim to explore and gain a deeper understanding of factors that motivate entrepreneurs to enter into an innovation competition. Additionally, the thesis will provide an understanding of why entrepreneurship would continue to pursue the same business, even after failing to win an innovation competition. The decision to enter an innovation competition could be considered to be an entrepreneurial action and therefore, in the following section, models on entrepreneurial motivation and behaviour will be explained.

2.5 Theoretical Perspective

The empirical material from the studied cases will be analysed from the following models in order to evaluate the motivational factors behind the entry into an innovation competition as well as continuous entrepreneurship.

2.5.1 The Model of Entrepreneurial Motivation

The model of entrepreneurial motivation, developed by Naffziger et al. (1994), examines the motivation of start-ups as well as the motivation behind sustained entrepreneurship. The model states that the crucial portion of the entrepreneurial process is the decision to remain in business, launch a new company or to abandon the business completely. It is also argued, that the decision to sustain entrepreneurship, i.e. to stay in business, is closely related to company performance but is also dependent on company ownership. Their theory provides a broad overview of the field of entrepreneurial motivation, which should include "behaviors necessary for the operations of the firm, its performance and the psychological and non-psychological firm outcomes" (Naffziger et al., 1994, p. 31). Elementary to the process and evaluation is the performance of the company, without a constantly successful business the entrepreneur might be worse off than if she had not started the business in the first place (Naffziger et al., 1994).

The extended view of entrepreneurship includes the entire entrepreneurship process, beginning at the decision to behave entrepreneurially. Five categories of variables are identified in this part of the process: "An entrepreneur's personal characteristics" such as self-image and the need for achievement and control; "The individual's personal

environment" which include family status, gender and family factors; "relevant business environment" where the business climate and barriers to entry are included; "the specific business idea" which is the feasibility and evaluation of the idea; and "the personal goals of the entrepreneur" which includes intrinsic and extrinsic rewards (Naffziger et al., 1994, p. 34). These five categories play a key role in the start-up phase of the business. Furthermore, Chandler and Hanks (1994) argue that the business environment and the attractiveness of the market are of specific importance for the success of the company in the start-up phase.

Secondly, the next factor to take into consideration is the "perceived implementation-outcome relationship" (Naffziger et al., 1994, p. 35). The total motivational process is influenced by how closely correlated the entrepreneur's strategic or managerial strategies and the company outcomes are. The stronger the relationship, the stronger the motivation to continue with entrepreneurial practises after the start-up phase (Naffziger et al., 1994).

Lastly, the third influencing factor is the "perceived expectation-outcome relationship" (Naffziger et al., 1994, p. 36), which translates to an individual's opinion of how well the outcome of the company will meet or surpass expectations. When an entrepreneur decides to behave entrepreneurially she does so with the expectation of gaining future intrinsic or extrinsic value. The perceived outcome is further defined into three corresponding outcome perceptions: "independence, autonomy and control; financial considerations and significant sales and profit growth" (Naffziger et al., 1994, p. 36).

As stated above, the decision to behave entrepreneurially is a result of many different factors. The personal characteristics of the entrepreneur, the perceived implementation and the perceived outcomes largely influence the entire entrepreneurship process, and it is in this start-up phase that the perceived sustainability of the business leads to a continuation or an abandonment of the company (Naffziger et al., 1994).

The model of entrepreneurial motivation was chosen as it provides many aspects used to analyse the motivational factors for entrepreneurs during the start-up phase and the continuous phase of a company. The model will be used to analyse the first phase of entrepreneurship identified in this thesis, the decision to enter an innovation competition. As the model describes what factors influence the decision to behave entrepreneurially,

those factors will be applied to the decision to enter an innovation competition as well as the two following phases, during the competition and continuing entrepreneurship.

2.5.2 The Threshold Model

The common definition of entrepreneurship, explained by Lupşa-Tătaru (2014) as the process of identification of opportunities, resource allocation and value creation, does not explain the motivation behind sustained entrepreneurship, nor does it explain why some companies survive while others do not. The threshold model, presented by Gimeno et al. (1997), introduces the idea of a threshold of entrepreneurial practices, where the threshold is the specific point at which the level of performance leads to the disbandment of the organisation. Two major factors are included in the model: the economic performance of the organisation and the organisation's threshold of performance. The economic performance refers to as how well the company is performing in an economic sense whereas the organisation's threshold of performance is defined as "the level of performance below which the dominant organizational constituents will act to dissolve the organisation" (Gimeno et al., 1997, p. 750). To put it in a simple manner, this is the point in time where the leaders of the organisation determine that the performance of the organisation is not sufficient and they will work to dissolve it. Organisations differ in their threshold of performance, and if economic performance is held constant between companies, the level of organisational performance, and whether it stays above or falls below the threshold, determines the survival of the business (Gimeno et al., 1997). Williamson (1991) argues that companies that perform poorly disappear while well-managed companies survive. By examining the difference in thresholds in similar corporations with the same level of performance, one can explain why some companies discontinue operations while others survive (Gimeno et al., 1997).

The threshold is determined mostly by the owner(s) and her interests and is somewhat shaped by the employees and other shareholders of the organisation. Furthermore, these non-owners might exercise the control that they have in the organisation to keep it in business and that, in turn, raises the threshold further (Gimeno et al., 1997). The threshold is further dependent on the owner and her residual claim on the company, e.g. the liquidity of the investment. A lower threshold might be a result of little or no cost of transferring assets from the organisation and back to the owner, and by doing so dissolving the organisation. Nonetheless, the threshold is also determined by uncertainty

and beliefs of the future, the owner could accept a lower level of performance if she predicts substantial payoffs in coming years. Additionally, the threshold of performance might be influenced by the owner's beliefs; she might have other objectives than pure financial gain (Gimeno et al., 1997). The owner could identify herself as a social entrepreneur. Social entrepreneurship is distinguished from the general definition of entrepreneurship by the fact that discovered and exploited opportunities need to create social value within or across a non-profit for the business sector (Austin et al., 2006). Thus, they provide social value rather than personal shareholder wealth (e.g., Zadek & Thake, 1997). Blanchflower and Oswald (1998) state that the simplest form of entrepreneurship is self-employment, which, according to Gimeno et al. (1997), could be one motivational factor for entrepreneurial activity that raises the threshold. Moreover, for a family-owned organisation, there might be more at stake, for example pride and connectivity for family members, than simply a source of income (Meyer and Zucker 1989, cited by Gimeno et al., 1997).

The threshold model can explain why one business is abandoned while another business survives, despite the fact that they are in similar financial situations. By applying the threshold model to the motivation related to different phases of entrepreneurial activity, it can be used to explore if, and why, some companies have continued business after the partaking of an innovation competition.

2.6 Motivation at Different Phases of Entrepreneurial Activity

Three different phases of entrepreneurial activity have been identified: the commencement, the continuation and the abandonment of entrepreneurial activity. Furthermore, the three phases will then be applied to analyse the participation in an innovation competition.

2.6.1 Commencement of Entrepreneurial Activity

Davidsson (1991) argues that in order to understand the motivation for growth, one must understand the factors behind it. The individual behind the company is a substantial factor of growth and sustainability of the company. Factors such as previous experience, the need for economic achievement and economic goals as well as the personal environment and personal characteristics heavily influence the decision to behave entrepreneurially (Davidsson, 1991; Gimeno et al., 1997; Naffziger et al., 1994). Subjective

norms, on the other hand, measure external factors such as social pressure to behave entrepreneurially. For a family-owned organisation that pressure could lead to increased motivation (Gimeno et al., 1997). Additionally, motivation could be driven by the wish to be self-employed and a wish for autonomy (Naffziger et al., 1994).

2.6.2 Continuation of Entrepreneurial Activity

Perceived behaviour control and the perceived expectation-outcome relationship are two major influences on motivation. If an entrepreneur truly believes that the company will be successful, she will be more motivated to sustain in her endeavour and she will have a higher threshold (Ajzen, 1991; Gimeno et al., 1997; Naffziger et al., 1994). Personal goals such as the wish to be self-employed influence the threshold positively (Gimeno et al., 1997). All positive company outcomes will create value for the owner, which in turn influences growth. However, it is important to note that each owner will have her own system of valuing those results, hence explaining why some rewards of similar value have different effects on different companies' thresholds (Gimeno et al., 1997). When the outcomes meet or exceed the expectation of the owner, the entrepreneurial activity is reinforced and she is motivated to continue (Naffziger et al., 1994). The expectations of outcomes will most likely develop over time (Naffziger et al., 1994). If expectations increase, but outcome remains constant at a lower level, it could lead to a termination of the business as the threshold of company performance is reached (Gimeno et al., 1997). An entrepreneur that is satisfied with the current economic result will not strive for more (Gimeno et al., 1997; Naffziger et al., 1994).

2.6.3 Abandonment of Entrepreneurial Activity

Companies, that perform well, survive, while companies that are performing poorly will eventually disappear (Williamson, 1991). Gimeno et al. (1997) argue that it is not the actual performance that causes the abandonment of the business, it is the comparison of the economic performance and the threshold that does. However, if the company is large and old, it might not require equally as much growth as a new company, since it is established in the market (Davidsson, 1991). This could explain why some established companies are content with their economic performance, while at the same level of performance, new businesses will reach their threshold and discontinue operations (Gimeno et al., 1997).

In this thesis the participation in an innovation competition will be regarded as an entrepreneurial activity. Thus, the motivation to partake, as well as the aftermath of the competition, will be analysed according to the above mentioned phases of entrepreneurial activity.

3 Methodology

This chapter will explain the thesis' underlying research philosophy as well the research design and the data collection process. Further on, the authors provide an explanation on how the findings were analysed and discuss the quality of the research design.

3.1 Research Philosophy

The underlying research philosophy reflects the authors' world view and their "particular view of the relationship between knowledge and the process by which it is developed" (Saunders, Lewis & Thornhill, 2009, p.108). Furthermore, it will influence the pursued research strategy and method. Since there is no 'better' or 'less suitable' option, the specific choice of which research philosophy to adopt, is often guided by the nature of the research question. Every philosophical approach provides views and specifications for what can be considered 'appropriate' in terms of activities, approaches and attitudes utilised in business research. It is important to understand the various philosophies in order to be able to handle people's different points of view in relation to one's own beliefs and understanding (Ethridge, 2004, p. 58). Saunders et al. (2009) as well as Ethridge (2004) mention, amongst others, positivism as one of the most-commonly adopted philosophies in management research.

The positivism philosophy is based on using existing theories in order to develop hypotheses. Here, researchers undertake, to the highest-possible extent, the data collection process in a value-free manner (Saunders et al., 2009, p.114). Furthermore, the researchers keep an "objective and independent view" (Saunders et al., 2009, p. 119) on the social actors. The aim is to observe social phenomena in order to test the earlier-developed hypothesis. Those hypothesis will then subsequently either be confirmed or refused, opening up for the possibility of developing new theory (Saunders et al., 2009, p. 113).

In contrast to positivism, social constructivism is a worldview that claims that individuals create their reality through interaction with others. The understanding of their experiences is influenced by social and historical events, and rather formed and constructively negotiated than personally experienced. Therefore, opposite to the positivist approach, researchers do not design their study based on existing theory, but investigate regarding the individuals first, and subsequently generate patterns of meaning

(Creswell, 2007). This, however, would not support the author's approach to the selected case study.

Yin's (2009) suggested way of collecting data and analysing processes leans towards the positivistic view: the truth is out there in the world and only needs to be explored. Positivist researchers assume "an objective physical and social world that exists independent of humans. The main role of researchers is to discover this reality by crafting precise measures that will detect and gauge those dimensions of reality that interest the researcher" (Paré, 2001, p. 5). This goes in line with the authors' goal to expand the existing theories on motivational factors for entrepreneurial activity as well as motivational factors for participation in an innovation competition, by examining the individual cases of three WSOCXC finalists and subsequently, generalising for further cases. Therefore, this thesis leans towards the positivism philosophy.

3.2 Research Design

The research design represents the "logic that links the data to be collected (and the conclusions to be drawn) to the initial questions of study" (Yin, 2009, p. 24). Therefore, posing a clearly-defined research question(s), is of greatest importance in positivist case research. Additionally, setting a well-defined focus, helps the investigator to not get lost in the overwhelming amount of qualitative data collected (Yin, 2009).

3.2.1 Research Purpose

The research design is distinguished by the study's research purpose, which can be of exploratory, descriptive or explanatory nature. With regards to the subsequently following choice of method, three conditions help to determine the research purpose: (1) the type of research question, (2) the degree to which the researcher can execute control over the behavioural events and finally (3) the question, if the study rather focuses on historical or contemporary events (Yin, 2009, p. 8). Whereas descriptive studies provide an explicit picture of a person, event or situation, they lack subsequent analysis and referring conclusions on the issue (Saunders et al., 2009, p. 140). Explanatory research, on the other hand, is used to explain causal relationships between different factors (Saunders, 2009, p. 141). Asking the question of 'what' (…factors motivate entrepreneurs to take part into an innovation competition?) indicates, in this thesis' case, exploratory research with "the goal being to develop pertinent hypotheses and propositions for further

inquiry" (Yin, 2009, p. 9). Furthermore, the study helps gain an understanding of the contemporary question of entrepreneurs' motivation for entering into an innovation competition as well as their motivation to continue business after the commencement of the competition.

In addition, the facts that the authors cannot execute any control over the behavioural events and that the study focuses on happenings related to the WSOCXC, which is a contemporary event, suggest that conducting an exploratory case study is the most suitable approach (Yin, 2009).

3.2.2 Research Strategy - Case Study

According to Saunders et al. (2009), the research strategy is based on the research question and the study's goals, the amount of knowledge gained in the respective field of study, resources such as time, as well as the selected research philosophy.

The authors decided on conducting a case study in order to structure the data collection and analyse the findings. To fulfil the requirement of the case study method to represent a 'real-life case' (Yin, 2009), this thesis distinguishes between the chosen companies, which were all finalists in the WSOCXC, and other companies that simply act in the oil clean-up industry today. The study only analyses the three case companies, however, to be able to understand in which industry those three companies are acting, the authors provide general information on further companies, that act in the oil clean-up industry, in section 2.3. of this thesis.

Another important fact is, that the study focuses on the companies, which send teams to compete in the WSOCXC, rather than on the individual entrepreneur or the teams themselves. The authors consider the participation in an innovation competition as an act of entrepreneurial behaviour. This is why some parts of the interviews investigate the characteristics of the team and of the interviewee. However, in the end, the decisions are taken in best interest of the company, and also the outcome affects the entire company and not only the individual entrepreneur. Therefore, the study investigates the company that competed in the innovation competition and not solely the individual entrepreneur.

Each of the finalist companies entered the competition with a specific set of resources, experiences and expectations. In order to understand each individual company's motivation, an in-depth investigation of every case is required.

3.2.3 Unit of Analysis

The unit of analysis can be an individual, a specific event or an entity. Here, the definition of the initial research question helps to lead to a more detailed case specification (Yin, 2009). Furthermore, events should be clearly ”defined in terms of the beginning or end points of the ”case” ” (Yin, 2009, p. 29). Since the study investigates the motivational factors that drive entrepreneurs to take part in innovation competitions as well as the factors that support continuation of the business activity after the competition's closure, the authors decided to define each participating company to represent a separate case. Even though the participating team members played a key role in the decision-making processes during the competition, the entire company was affected by the results and is therefore to be focused on. The happenings between the beginning of the WSOCXC in July 2010 and the awarding of the prize in October 2011 are of the study's greatest interest. However, also the companies' history as well as the actual outcomes of the challenge for the individual businesses after October 2011 were taken into consideration.

A further advantage of a case study is that the varying backgrounds of the finalists can be considered. Those may have a considerable impact on the decision-making process of a company. The finalist group consisted of five U.S.-American teams, one team from the Netherlands, two Finnish and one Norwegian team (Herox, XPrize Case studies, 2015). While six of the finalists brought in comprehensive knowledge from the oil industry in the form of already-established or developing companies, the other four represented start-ups with no or little relevant experience in the field at all (Diamandis & Kotler, 2015, p. 541).

3.2.4 Selection of the Cases

Conducting a case study allows the authors to investigate ”a contemporary phenomenon within its real life context when the boundaries between phenomenon and context are not clearly understood” (Brannick & Roche, 1997, p. 13). The study's sample is represented by the ten finalist companies in the WSOCXC in 2010/2011. Due to this very limited number of potential respondents, the authors are aware of the risk that a high refusal rate implies on the validity of the study outcomes. However, since the goal is not to list and compare frequencies of occurrences, as it is in the case of statistical generalisation (Yin, 2009), but to ”expand and generalize theories” (Yin, 2009, p. 15), which

represents analytic generalisation, the concern of low validity in case study research can be disproven (Yin, 2009). Just like in experiments, in case studies the investigators generalise ”to theoretical propositions and not to populations or universes” (Yin, 2009, p.15). After having conducted interviews with decision-makers of three companies, which in total represented a broad spectrum of diverse backgrounds, the authors came to the realisation that further interviews would not provide any new evidence. For this reason, the study was limited to a number of three selected cases. This goes in line with Eisenhardt’s (1989) point of view, that reaching theoretical saturation marks the point at which researchers should not add any further cases to the study. Theoretical saturation can be described as a status whereas the observable phenomena start repeating and therefore, incremental learning approaches zero (Paré, 2001, p. 14).

Case study research can be designed as single or multiple-case studies. Single case designs can be of unique, revelatory or critical nature, which in turn justifies the case’s appropriacy for theory-testing (Yin, 2009). Otherwise, also a multiple-case study design represents an appropriate approach. Here, the researchers can either aim for literal replication, which means that the expected results of each case are assumed to be similar and not opposing, or for theoretical replication (Paré, 2001, p.13). The theoretical replication strategy, on the other hand, prognosticates contrasting results to be analysed. Both procedures are based on the creation of an extensive fundamental theoretical framework (Yin, 2009, p. 54).

The authors of this thesis decided to conduct multiple-case research. If not only one but multiple cases endorse the same suggested theory, theoretical replication might be assumed. This, in turn, supports the chosen analytic generalisation approach by which the investigator compares the empirical findings with a theory that was outlined previous to the data collection (Yin, 2009).

3.2.5 Research Choice

In order to collect the primary data required to answer the research questions, the investigators need to decide on appropriate data collection methods. The choice will be guided by the type of information required to solve the research problem.

The researchers can choose to obtain qualitative data, quantitative data or to use both methods. According to Ghauri and Grønhaug (2010), qualitative methods are

characterised by a “mixture of the rational, explorative and intuitive, where the skills and experience of the researcher play an important role in the analysis of data” (p. 105). Qualitative methods aim to understand the interviewee’s point of view and are process-oriented rather than focusing on the actual result (Ghauri & Grønhaug, 2010, p. 105). Generally, qualitative data collection techniques gather non-numerical information in forms of words, pictures and/or videos (Saunders et al., 2009). A common form of those techniques is interviews, which can be structured, semi-structured or unstructured (Ghauri & Grønhaug, 2010, p. 104).

Quantitative methods, on the other hand, aim to approach problems logically and critically (Ghauri & Grønhaug, 2010, p. 104). ”Control, operational definitions, replication and hypothesis testing” (Burns & Burns, 2008, p. 15) depict the four most important characteristics of this method. Questionnaires, attitude scales or tests are used to gather numerical data or statistics (Burns & Burns, 2008). The goal is to rationalise information in forms of tables and numbers. Furthermore, in order to extract relevant and meaningful general laws and principles, large samples need to be available (Brannick & Roche, 1997).

Based on the fact that the purpose of this thesis is to investigate the motivation of organisations to enter into an innovation competition, the authors decided to conduct qualitative research. In order to answer the research questions, a deep understanding of each individual company’s background as well as extensive information on their decision-making processes, throughout the competition, is needed. Since the thesis does not aim for generalisation but instead specifically focuses on the finalists of the WSOCXC, a conversion of answers into numerical data would not serve the purpose of answering the question ’why’. Therefore, the authors decided to undertake qualitative research.

Furthermore, the authors decided to conduct qualitative research since it enables the researcher to capture ”expressive information not conveyed in quantitative data about perceptions, values, needs feelings, and motivations that underlie behaviours at an individual level” (Burns & Burns, 2008, p. 19).

3.2.6 Time Horizon

There are two different ways to look at cases in a time wise manner. Either, the authors can only look at a selected event or phenomenon at a specific point in time, which

would represent a cross-sectional study and be more of a 'snapshot' of the situation. Contrariwise, studies can be conducted, investigating events or phenomena over a given period of time. This case is called a longitudinal study (Saunders et al., 2009, p. 155).

This thesis is based on a longitudinal study due to the fact that not only the actual participation of the companies in the WSOCXC, but also their decisions before start and after closure of the innovation competition, play a crucial role in determining the motivational factors that drove the companies to their entrepreneurial actions. A longitudinal study is of best use for those kind of cases, since it has the advantage to be able to investigate change and development in processes and not only one status-quo.

3.3 Data Collection Process

The right choice, of which method to use to collect data, is crucial for the research process. Both primary and secondary data collection are possible approaches. Secondary data provides information, collected for a purpose unrelated to this thesis. This implies that this data's relevance, validity and reliability have to be evaluated with particular care. However, those information are commonly less costly and faster to obtain than primary data. Possible sources include websites, search engines, books and academic articles (Brannick & Roche, 1997).

Primary data, on the other hand, is specifically collected to fulfil the purpose of answering the research questions. Suitable tools to obtain primary data include questionnaires, interviews or direct observation (Brannick & Roche, 1997).

For this thesis, the primary data was gathered in forms of in-depth structured interviews with an open ended response format. The respective questions were formulated, tested for the level of clearness and understandability with two independent company owners, which were, however, not related to the specific WSOCXC and finally sent to the group's tutor Gershon Kumeto in order to receive additional feedback. After various adjustments, the questionnaire was either used during the telephone interviews or forwarded via email.

The content of the questionnaire aimed to gain general information about the entrepreneurs that took the decisions before, during and after the innovation competition as well as information about the company's financial and human resource statuses during the three previously-mentioned points in time. Furthermore, the authors asked specific

questions regarding which motivations and expectations lay behind specific actions. Asking a combination of open-ended as well as closed questions, aimed to enable the investigators to detect new motivational factors, not previously thematised or outlined in the frame of reference. The entire questionnaire guiding the interviews is enclosed as Appendix 1.

Secondary data regarding the oil clean-up industry, as well as theories regarding entrepreneurial motivation have been acquired from various subject books, academic articles and Internet sources.

3.3.1 The Interviews

Due to the complex nature of organisational inducements, in-depth interviews with the teams' decision-makers are regarded as the most suitable tool of data collection. Even though, those are more time-intensive than standardised questionnaires, they provide the authors with the possibility of an unregulated conversation and follow-up questions for a better understanding. Furthermore, they open up for the possibility to detect further motivators that had not been taken into consideration at the starting point of the study (Saunders et al., 2009, p. 324).

Interviews are a way of communication that can be pursued face to face, but also via telephone or email. If the questions to be answered are submitted via email, it is referred to as a questionnaire. Both ways of communication may be structured, semi-structured or unstructured. The goal is to gather information from people who made specific experiences and are able to explain the phenomenon in question to the investigator (Ghauri & Grønhaug, 2010, p. 118). In order to get a deeper understanding of each company's background and experiences, the group conducted semi-structured interviews as most suitable form of qualitative research method.

Firstly, the group contacted the XPrize Foundation in order to receive more detailed first-hand information about the competition's terms and conditions. Those were required to understand the environment of the challenge and possible linkages between the organisation and the contestants. Since, due to privacy policies, XPrize was not able to directly establish a connection between the authors of the thesis and the various finalists, it however provided a conspectus of Internet links to each company's contact information. Subsequently, all finalists were contacted with via regular company email as

well as on LinkedIn with a description of the thesis purpose and a request for cooperation.

The emails, sent to the companies, contained a cover letter, introducing the authors, explaining the goal of the thesis and how the finalists could contribute with their experience to the outcome of the thesis. Furthermore, the authors emphasised that all information collected during the interview would be treated in strictest confidence and that it would not be possible to identify the responses of any individual company from the results produced. Two companies stressed their wish for anonymity, whereas one of the companies did not see that as a critical point. In order to respect those agreements, each interviewed company is referred to as Company *Letter*. Respectively, if the authors refer to the company's team that competed in the WSOCXC, it is referred to as Team *Letter*.

	Competing Team	**Data Collection Tool**	**Date of communication**	**Duration of communication**	**Position of the interviewee**
Company A	Team A	Company profile and questionnaire; both conducted via email	April 1-13, 2015	In written form	Team leader during the WSOCXC; today Head of Engineering
Company B	Team B	Telephone interview	April 16, 2015	50 minutes	Team leader during the WSOCXC; simultaneously Company's CEO
Company C	Team C	Telephone interview	April 8, 2015	30 minutes	Team leader during the WSOCXC; today R&D Manager

Table 1

Finally, contact with three finalists was established. Three interviews were conducted, whereof two took place via telephone and one via email. Due to scarcity of suitable interview times from the company side, Company A provided extensive information material on their participation in the WSOCXC as well their company profile via email and subsequently, agreed to answer further questions of the questionnaire via email.

The then team leader's written answers were equally as extensive as the ones the group received during the telephone interviews.

The above mentioned telephone interviews took 30 minutes and 50 minutes respectively, and were both conducted with one company's CEO and one R&D Manager, both the team leaders during the WSOCXC. The questions aimed to reach a better understanding of each competing team's background as well as of the factors that influenced the decision-making of the team leaders. Since the respondents solely represented key-informants, the given answers were rich in personal reflections and first-hand impressions on the challenge. The variety of interviewed companies, from a small family business to world-wide operating big players in the industry, was also reflected in the focus points, that the interviewees set in their answers. A spectrum from a more technical focus to experiences regarding administrative or organisational challenges were presented throughout the interviews.

The communication was initiated by one of the authors, Bema, who also conducted the interviews. Due to the fact that the communication was not face-to-face but only verbally or in written form, the interviewers' visual appearance was not of relevance. However, before every interview the authors ensured a noise-and-distraction-free environment and tested the communication and recording tools in order to avoid any unnecessary interruption and provide a professional interview situation.

All conversations were, with permission by the interviewees, audiotaped in order to be transcribed and analysed at a later point in time. Recordings also eliminated the risk of misunderstandings based on the different nationalities of interviewers and interviewees. Uncertain phrases were possible to be reheard again. Nevertheless, misunderstandings based on diverse language prerequisites were tried to be limited but can never entirely be ruled out.

3.4 Data Analysis

In order to gain a deeper understanding of the motivation behind participation in an innovation competition, and the decision-making process whether or not to continue with the business activity after the competition, the conducted interviews need to be analysed in relation to the frame of reference proposed in Chapter 2.

In preparation for the interview, the authors assured anonymity to interviewees and their respective companies. However, since the authors believe that the founding years and, therefore the company's years of experience in the oil clean-up industry, have a considerable impact on the decisions taken, the ten finalists were grouped into three categories of company age: newly-started before the competition, founded up to ten years prior the WSOCXC and founded ten years or more prior to the competition in 2010.

The authors further decided to analyse the three cases by performing a within-case analysis first, in order to subsequently be able to conduct a cross-case synthesis. This method treats each interview as a separate study and subsequently aggregates findings collectively (Yin, 2009). As a starting point, the authors created a word table (Table 2) according to a unified framework, which represents outcomes of interest related to the initial theories. Here, the vertical axis represented Company A to C, whereas the horizontal axis identified both the company's motivations for entering the WSOCXC as well as the motivational factors for continuing the business activity after the competition has come to an end. The table was then completed by matching in the respective column. Those findings were afterwards examined for similarity. Finally, the authors were able to pursue a cross-case analysis. This kind of examination, however, is strongly based on argumentative interpretation (Yin, 2009).

According to Yin (2009), high-quality analysis considers the following four aspects: all evidence, regardless if it supports or opposes the authors' hypothesis, is to be taken in consideration; "all major rival interpretations" (Yin, 2009, p. 160) are addressed; the analysis considers the study's most substantial aspects; and the author's used their own expert knowledge that they gained prior the study.

3.5 Quality of the Research Design

Yin (2009) suggests four factors to be examined in order to assure high quality of any empirical social research:

I. Construct validity refers to the chosen set of measurements and the investigators' choice of theoretical concepts to be applied. Case study research is often forejudged for subjective data collection decisions. However, this thesis is based on extensive research in the practical field of the oil clean-up industry, as well as bases its conclusions on

verbal and written statements from key informants in the respective companies. Therefore, the authors claim to assure a consistent chain of evidence.

II. Internal validity is more of a concern for explanatory research. Here, critics emphasize the possibility that the causal relationship between two events can be misinterpreted by the investigator and therefore may lead to wrong conclusions. In this thesis, internal validity may rather apply to the authors' line of argumentation and the subsequent conclusions. Due to the fact that the investigator based all collected information on oral or written transfer by the interviewees and was not personally present when the events happened, the correct inference of the events is in question (Yin, 2009). Nevertheless, since the authors collected data from three different interviewees and in addition conducted research on legal and industry-related facts of the oil clean-up industry, this threat of wrong inference is attempted to be avoided to a high degree. By conducting "pattern matching" during the data analysis (Yin, 2009, p. 41), the authors further aim to assure a high degree of internal validity.

III. External validity questions the research findings' ability to be applied to further cases than the immediately-explored ones (Yin, 2009). Would the study's findings be equally true when adopted to the finalists of innovation competitions other than the WSOCXC? In order to address this quality issue, the authors decided on conducting a multiple-case study and analysing the findings by analytic generalisation. In this way, the earlier mentioned replication logic supports the external validity.

IV. Question of reliability aims to make sure that this study, conducted by another investigator than the authors, would lead to the same outcome and conclusions as this thesis (Yin, 2009). With the goal to reduce errors and possible bias, as also suggested by Yin (2009), the authors explicitly documented all events and described the procedures in a very detailed manner.

Case studies are used to "collect and analyse data in the context of some wider theoretical concern" (Brannick & Roche, 1997, p. 99). The most commonly mentioned limitations with regards to using qualitative research are the problem of generalisation and the time commitment (Burns & Burns, 2008; Yin, 2009). Due to the rather subjective nature of personal experiences and impressions, which are often difficult to fit into a standardised pattern of scientific criteria. Also the general requirement of replicability is not

given to a sufficient extent, since situations, events or interactions can hardly be replicated in real life situations. However, those understandings fulfil an explanatory function and therefore suggest that an individual's behaviour is highly predictable (Burns & Burns, 2008).

Furthermore, Yin (2009) outlines the following weaknesses of using interviews as tools of data collection: "Bias due to poorly articulated questions, response bias, inaccuracies due to poor recall, reflexivity - interviewee gives what interviewer wants to hear" (Yin, 2009, p. 102). The pitfall of poorly articulated questions, as well as reflexivity, was especially addressed by asking for feedback from the group's tutor Gershon Kumeto and by posing the questions to neutral persons, before the actual interviews, in order to detect confusing or misleading formulations. Furthermore, some of the interviewees made comments such as "This is most probably not, what you wanted to hear" (Company C, Personal Communication, April 8, 2015). Those statements, were answered with support of open and true answers. Due to the personal involvement of the interviewees in the process of the WSOCXC the response bias, however, could not be avoided and therefore represents a drawback that had to be accepted by the authors. Finally, the inaccuracies due to poor recall might have been an issue due to the time span of four years between the events and the interviews. However, all interviewees were highly involved actors at that time and therefore seemed to be able to answer in an on-going well-informed attitude.

Additionally, the authors had to take into consideration, that decision-makers might hold back sensitive information due to privacy policies or the possibility that some can be revealed to competitors. However, all three interviewees were surprisingly open to talk about financial figures in general and the organisations' motivations.

One last drawback might be, that with every organisation only one interview was conducted. This might involve the possibility that during sessions the interviewees would have given additional relevant information regarding their motivation or background information that the authors were not aware of but which influenced the organisations' decision-making. However, all interviewees offered the possibility to come back to them in case further clarification is required. This offer only needed to be utilised once.

4 Presentation of Findings

In this chapter, a presentation of the empirical findings will be provided. The information are presented in a per-case manner.

4.1 Characteristics of the Cases

Team A consisted of six team members, all from the same country, except for an external expert who was hired during the testing phase. The approximate age span in the team ranged from 30-70 years. The team also hired additional external consultants to help build their system and improve some elements of design. In Team A, decisions were not made by the team leader, but by the owner of Company A. However, the team was able to take part in the decision-making process, being able to exert influence on minor decisions. Team A consisted of a majority of people with previous experience in the oil clean-up industry, with the one exception of an external hire that was highly-skilled in other related areas (Company A, Personal Communication, April 13, 2015).

Team B consisted of six team members, varying between 35-45 years of age whereof all team members came from the same country. The team did not use external hires in order to build their system but kept all development within the team. In Team B the team leader had ultimate responsibility for design and construction, and would make most decisions singlehandedly. With regards to the question of previous experience, Team B consisted of people with diverse professional backgrounds. The team leader, who had previous knowledge in various fields of the maritime industry and stood for the design and innovation, received help from other members of the team to build system components. Additional members had skills in marketing and other skills useful for the competition (Company B, Personal Communication, April 16, 2015).

Team C consisted of six members, four from a larger company and two from a partnering company. The average age of the team was 35-40 years and all members were of the same nationality. Team C used additional personnel from their company to improve parts of the system, but otherwise kept development within the team. In Team C, the decision-making was described as being a democratic process in which the leader would make the final decision in case of a conflict. Previous experience of the oil clean-up industry was investigated and it was found that Company C, that was already established in the business, had a team consisting of members with a high level of knowledge regarding the oil clean-up industry. Furthermore, they were complemented by two

supporters from a different field of expertise (Company C, Personal Communication, April 8, 2015).

4.2 The Case Companies at Commencement of the Competition

Company A had up to 10 years of previous experience in the business, and was made aware of WSOCXC as a result of information provided by another organisation. The company was convinced that they had a system that could earn them the victory and therefore decided to form a team and enter the competition. Furthermore, they were hoping that a victory would lead to global recognition, increased sales and a stronger position in the market. The team was funded by Company A and therefore had no obligation to pay back the invested money due to the fact that the company considered the participation as an investment (Company A, Personal Communication, April 13, 2015).

Team B decided to enter the competition when they saw a press release about the WSOCXC. As for the reasons of entering the WSOCXC, Company B experienced the Deepwater Horizon oil spill and due to this designed a brand new system that was different from the already existing systems in the market. The reason to enter the competition was to launch and test the new technology with the goal to establish it in a narrow market. Team B did not necessarily expect to win, they were hoping that the newly-developed technology would make a lasting impression in the industry. Company B was started shortly before the competition and therefore did not have a physical system ready to compete. The owner of Company B, who simultaneously acted as the team leader, did not have to quit or forsake alternative employment, as he owned another company that was and is still active in a different part of the ocean industry. With regards to the costs associated to the partaking of the WSOCXC, Company B provided major parts of the funding, together with additional financial means provided by partners included in the competing team. All sources of finance went to the competition and none of it was paid back to investors (Company B, Personal Communication, April 16, 2015).

Company C was informed by a partner about the possibility to enter the WSOCXC. They were at first doubtful whether to enter, since the existing technology would require extensive alterations in order to take part in the competition. However, their main motivator for participation was to win the competition and the prize money, and by

doing so, exploiting the marketing opportunities associated with the competition as well as increasing market shares. Team C expected to win the competition. Company C had over ten years of experience in the business and backed its team financially; additionally, Team C received financial grants from the national government as an encouragement for research. This grant was not required to be reimbursed (Company C, Personal Communication, April 8, 2015).

4.3 The Case Companies During the Competition

Team A decided to hire an external consultant during the competition in order to attain required competences not held by the team. Additionally, several alterations to the design of the system had to be conducted as the testing facility could not handle the forces caused by the system. Those alterations, in turn, caused the expected efficiency to decrease (Company A, Personal Communication, April 13, 2015).

Team B only had 60 days to build their system from scratch before the launch of the innovation competition. Consequently, a number of changes were made to their initial design during the competition. However, the team structure remained the same through the course of the contest. During the testing phase, malfunctions of the system occurred and, therefore, it did not perform to the expected standards (Company B, Personal Communication, April 16, 2015).

Team C knew from the outset that they would have to make several changes to their already existing product, since the technology did not fit the specifications provided by the competition. Consequently, they did not make any drastic changes to their product that they had not already planned for. Through the course of the competition two of the members of Team C had to resign due to personal reasons. However other people from within the company replaced them (Company C, Personal Communication, April 8, 2015).

4.4 The Case Companies' Continuation after the Competition

Company A is still using the same product as they competed with in the WSOCXC. When asked about the benefits of taking part in the competition, Company A believes that the participation was worth it, despite the costs and problems, due to the fact that they were able to test their product for free and learned from the mistakes that were made. The benefits drawn from the competition, are the marketing opportunities and the

technical knowledge acquired from the testing phase, which ultimately led to an improved product. Besides that, they have not observed other changes. The company further emphasises the experiences gained through the testing phase, as the most important ones. Before the competition, Company A expected that a victory would lead to global recognition and that oil spill experts would know about their products. After the competition they are well-known in Europe, but not in the rest of the world. They would recommend other entrepreneurs to take part in the competition and encourage participation as "*These competitions motivate people to think out of the box in order to find new solutions"* (Company A, Personal Communication, April 13, 2015). However during the interview it was also stated "*I also would warn them to think well before taking part. It cost us an awful lot of time and money and there is no guarantee that you will win"* (Company A, Personal Communication, April 13, 2015). Company A states that the XPrize Foundation is not involved in their current business activities in any way. When asked about the impact that the challenge had on the oil clean-up industry, Company A explained that the oil clean-up industry is complex and that they do not believe that the competition had much of an impact. An explanation, why this was the case, was provided and it was stated that *"The WSOCXC was a kind of laboratory test, with certain circumstances that you will not find in the real world"* (Company A, Personal Communication, April 13, 2015) and therefore not contributed to true innovation. Looking back, they would have changed some technical aspects to their system, but other than that they would not have changed anything (Company A, Personal Communication, April 13, 2015).

Company B are still using the product that they competed with in the competition. However, they have modified the original product extensively and are still in the testing and development phase. When asked about the benefits of taking part in the WSOCXC, Company B emphasised that even though it was a competition within a small industry, it is still very hard to prove the advantages of their system. However, once the last touches on the system are done, it is expected to become much easier. The testing provided during the competition, helped in the development of the product. However, due to the costs incurred, Company B is uncertain whether they are better or worse off after the competition. Nevertheless, they believe that the competition was somewhat helpful. With regards to what experiences the company has taken with them after the competition, Company B believes that the WSOCXC is responsible for the continuation of their

business, since the competition was a factor involved in the decision to keep the business going. Since Company B suffered from a malfunction during the testing phase, their expectations and hopes to win, suffered dramatically and they were very disappointed with their result. In the end, they are happy with the outcome, despite the malfunction, but had hoped for a better result. When asked if they would recommend others to take part in a similar competition, the answer was "*I would say both yes and no. There was a couple of issues with XPrize, but even when considering the small timeframe and the pressure put on the contestants, I would still recommend it."* (Company B, Personal Communication, April 16, 2015). Company B states that the XPrize Foundation is not involved in their current business activities. When asked about the impact the challenge had on the oil clean-up industry, Company B stated that even after the competition, the market is still narrow and entry is difficult. Additionally, the regulations on technology have remained the same since the Exxon Valdez oil spill, showing that the market has not evolved much since then (Company B, Personal Communication, April 16, 2015).

Since company B is relatively new in the industry, the issue of continuous entrepreneurship was raised during the interview. The reason for continuing with the development of the system after the competition is stated by the entrepreneur, that he truly believes in the system. Additionally, it was also mentioned that the WSOCXC helped to *"kick the company into starting. Without XPrize I would probably have moved on to pursue other things"* (Company B, Personal Communication, April 16, 2015). Company A and C did not provide information regarding how the WSOCXC affected their motivation during the start-up phase as they were already established businesses before participation in the competition.

Company C was using a pre-existing system, developed prior to the competition, with the addition of specific parts designed to suit the conditions during the contest. After the competition, the company returned to the original design, therefore disregarding parts specifically built for the XChallenge. When asked about the benefits of taking part in the WSOCXC, Company C stated that they received financial gains, increased their network and reputation, and that the participation was a good marketing tool. They further emphasised that the competition lead to a better relationship with the industry and as a result to increased market share, since their product was more recognised in the

market. Overall, it is hard to estimate if they are better or worse off as a result. However, it appears that they have received positive gains for taking part. Company C believes that they have a stronger position in the market than before. Nevertheless, it is difficult to determine whether this growth is caused by the participation in the competition or influenced by competition-unrelated factors. With regards to what experiences the company has taken with them after the competition, Company C included improved teamwork, acquired technical knowledge and, what they deemed most important, the proof that the company is top ranking in the world. This mark of excellence sparked additional encouragement amongst the employees. When asked if they would recommend others to take part in a similar competition, the answer was yes. However, it was emphasised that a team should only take part, if it has sufficient funding, and stated that "*If you have the needed money, it's a smart way to use that money"* (Company C, Personal Communication, April 13, 2015). Company C stated that the XPrize Foundation is not involved in their current business activities, however, it was mentioned that they have been invited to certain networking activities and conferences. When asked about the impact the challenge has had on the oil clean-up industry, Company C discussed the in-field challenges and how the competition may not have had a practical approach that could have been used in real life. However, when taking the technological progress, that was made, into account, the competition helped, but maybe not in the obvious ways that some had expected. Looking back at their participation, the company would change some technical aspects to their system but other than that they would not do anything differently (Company C, Personal Communication, April 8, 2015).

5 Analysis

In the following chapter, an analysis of the empirical findings is provided. The authors first apply a within-case analysis, in order to be able to perform a subsequent cross-case analysis.

5.1 Within-Case Analysis

5.1.1 Company A

With regards to the characteristics of the team representing Company A, there are clear indications that a need for achievement played a part in the decision to enter the WSOCXC. They do not only display a desire to win the contest, but they also highlight the fact that participation, and not least victory, would lead to global recognition. This, in turn, could lead to a stronger market position for the organisation, as well as more successful business. There are, however, few indications that a need for autonomy induced the decision to participate in the WSOCXC. Both major and minor decisions were made by the owner of the company, and only on minor decisions was the team, through their leader, able to participate in the decision-making process.

The goals of an entrepreneur or an organisation will influence, whether they decide to act entrepreneurially or not (Naffziger et al., 1994). When the founder of Company A identified the need for a more efficient product on the market, he had a clear goal – to create said product. This goal, in combination with the conviction that he had indeed succeeded, played a great part in the decision for participation in the WSOCXC. Furthermore, this also had an influence on the goals of the participation itself. When entering the competition, Company A aimed at winning the competition, and this goal, in combination with their belief that they could accomplish their goal, is likely to have had a great influence on their decision to participate in the contest.

In their model of entrepreneurial motivation, Naffziger et al. (1994) speak about the importance of the business environment, and with regards to the WSOCXC, the business environment should be regarded as the actual industry, but also as the circumstances, and the rivalry, of the contest. As clearly shown, Company A perceived their product as the best on the market, and therefore they perceived it to be the best competing product in the WSOCXC. This belief should clearly have influenced their decision to enter the contest, as the conviction that a victory is achievable should make a team more prone to participate in a competition.

Furthermore, despite not having a product that differs from the opponents in any drastic design or technical matters, Company A still believed that their innovation was superior with regards to efficiency and quality. Naffziger et al. (1994) state that a belief in the business idea greatly influences decision-making, and, as shown, Company A had a strong belief in their product and their idea.

There is no evidence showing that Company A, upon entering the competition, expected any changes to have to be made during the course of the challenge, neither to the team nor to the product. Unfortunately, this was not the case. With regards to the team, an additional member was required; an oil clean-up expert was included in the team. Furthermore, the tow-bridge at the testing facilities could not endure the forces of the waves caused by the product. Despite this being a fault caused by the testing facility, and thus the challenge itself, Company A was forced to make several changes to their product during the course of the challenge. It is clear that Company A's alleged implementation process and the actual outcome differ greatly.

Furthermore, also the expectations the company had towards the competition, and its aftermaths, differ from the actual outcome. With regards to the actual process, Company A expected their product to reach better results than it actually did, much due to the challenges with the tow-bridge at the testing facilities, which decreased their results by almost half of the actual capacity. However, their expectations on the aftermath were also different from the actual outcome. Upon entering the competition, the company expected that participation in the WSOCXC would bring global recognition and that oil clean-up experts from all around the globe would know about them and their products. Today, the company is known throughout most parts of Europe, however, within the other parts of the world they are still an unknown player in the market.

Despite the differences in expectations and outcomes, the WSOCXC did produce several positive outcomes for Company A. With regards to intrinsic rewards, the company claims that the participation in the challenge allowed them to gain a lot of experience and that they learned a great deal on how to improve not only the competing invention, but also other products in the company's product line. Furthermore, the company also gained extrinsic rewards, such as cost savings on testing facilities and publicity. However, Company A highlights the fact that the participation required large amounts of capital. They also state that despite the large amounts of money and time invested,

neither turnover nor sales has increased, nor has their position in the market gotten stronger. Nevertheless, no decrease, in the above mentioned factors, has been observed either.

The factors that Naffziger et al. (1994) present as influential on the decision to engage in entrepreneurial activities, can, on many occasions, be witnessed in the case of Company A. The organisation possesses characteristics that the model suggests should increase the likelihood of them entering the WSOCXC, as well as clear goals that should also influence the company to participate. Furthermore, the company's perception of the business environment and their product, also corresponds with what the model presents as reasons for undertaking the activities.

Contrariwise, the actions of Company A do not entirely correspond with the factors presented in the model as reasons for continuing with entrepreneurial activities. The expectations, and the actual outcome, differ to a large extent, and so does the organisation's perception on the implementation and what the company actually had to do. According to the model, this should decrease the probability of the company continuing business. Nevertheless, Company A is still in business. Furthermore, the presented company outcomes are not entirely positive, and this should also decrease the chances of the organisation continuing operations. It should, however, be made clear, that company A was not a start-up at the time of the competition, and their reasons for continuing business therefore not solemnly depended upon the outcomes of the WSOCXC.

In their threshold model, Gimeno et al. (1997) argue that business survival depends upon on a company's threshold of performance. With regards to the contestants in the WSOCXC, the survival of a company not only relates to the continuation of the company itself, but also to the decisions to continue within the industry and with the competing product. An extensive part of the model concerns human capital and the possibility to allocate it to specific occupations (Gimeno et al., 1997). Firstly, the general human capital is discussed. The six person team competing for Company A during the WSOCXC consisted of four company employees, all with experience from the oil clean-up industry. Furthermore, as the company was founded within ten years prior to the WSOCXC, the level of industry and work experience within the organisation should be high. It is also likely that much of the experience held by the company is specific to their business and to their products. This is further supported by the fact that the

competing product has been in the organisation's product line since long before the competition took place. Furthermore, there is nothing indicating that the human capital at the company holds qualities that are more valuable in other, alternative, occupations of businesses. This is supported by the fact that Company A only operates within the oil clean-up industry.

Company A is neither a new start-up, nor does it only produce newly-invented products. Due to the age of the company and its competing product, it can be assumed that a great deal of time has been invested into both. Which, in turn, suggests that the psychic attachment to them should be high. Furthermore, the cost of switching operations should also be high. Not only has a great deal of capital been invested into the company (besides the day-to-day costs of business, participation in the WSOCXC was mentioned to be costly, and Company A financed their participation by themselves). Evidence also suggests that the company does not possess the experience required to change market for their operations, since they are operating exclusively within the oil clean-up industry.

According to the threshold model, the survival of an organisation depends on the factors presented above. The results suggest that Company A should have a high threshold, as their human capital is exclusive to their industry and to their product. Furthermore, the company should also have a high psychic attachment to the business, and the cost of switching industry should be high. The likeliness of the company continuing operations after the WSOCXC was therefore great.

5.1.2 Company B

The characteristics of Company B can help to explain why the decision to enter the WSOCXC was taken. The team leader displays a high need for achievement as the company was new to the market, and the ultimate end goal of the participation was to prove that the developed technology is one-of-a-kind. The participation in WSOCXC was a way of proving the functionality of the clean-up system and to gain recognition for the idea. Additionally, the team leader hoped to revolutionise the market by providing them with proof that the new innovation was more efficient.

The decision-making process displays a certain degree of need for autonomy as the employees of the company and the team members are not involved in the final stages of the

decision-making process, all minor and major decisions are taken by the team leader. However, the owner states that even though the ultimate decisions were taken by him, the decision-making process was somewhat influenced by the team members. One explanation for this could be because of the family ties between the members of the team and the owner. The personal environment is an important motivator for entrepreneurship (Naffziger et al., 1994) and the team leader included family members, who showed a high level of support for the leadership provided by the founder, in the team.

The goal of partaking in the competition was to test the developed technology, a technology that was "backwards" from anything else that was, and currently is, used in oil spill clean-up. Company B had a clear goal combined with a belief that the competition would lead to an introduction of their technology in the market and that is likely to have had a very strong influence on their decision to enter. The company truly believes in the developed product and therefore the owner took a substantial financial risk to take part in the competition, which suggests a medium to high level of risk-taking propensity. The company also displayed a high level of aspiration as the application was made without a physical product and aspired to revolutionise the industry.

The business environment greatly influences the decision to behave entrepreneurially and sustain entrepreneurship (Naffziger et al., 1994), which is a clear factor in this case. The market is narrow with few large companies, which the owner of Company B witnessed during the Deepwater Horizon Oil Spill. The business environment was one of the reasons stated, why the participation in the WSOCXC was important for the development of the business. There is a high level of rivalry existing in the current market and Company B believed upon entering that the developed product would distinguish the team as it displayed significant differences to the other teams

As Team B entered the competition, the assembly of the technology had to be rushed, since the team only had 60 days to complete their product in order for it to be finished for testing at OHMSETT. Unfortunately, during the testing phase at OHMSETT, one of the valves for the discharged water was left closed, which in turn lead to too much pressure to build up and some of the components broke. As a result, the efficiency of the system was greatly compromised. Due to the malfunction during testing, the result was not in the vicinity of what was expected and the market was not interested in the developed system. Consequently, the company, that was formed, is still testing their new and

improved system and hopes that the next testing round in September will provide record-breaking results. Additionally, the implementation and the actual outcome differ as a result of the rushed building phase and as a result from the testing facility. The core team remained the same; the only factor that suffered due to changes was the construction and design of the system.

There was a significant difference in the expectations and actual outcome as well as perceived implementation and outcome. Despite this, Company B expressed that they would still recommend other companies to take part in similar competitions, despite some issues with the organisation and allowed time frame. The expectation and outcome relationship as well as perceived implementation and outcome are factors of continuous entrepreneurship. The differences in outcome should have affected Company B in a negative way in the decision to continue with entrepreneurial practices, especially as Company B was a relatively new company without a significant market share.

The decision of continuous entrepreneurship could also be explained by the threshold model (Gimeno et al., 1997). When the threshold is reached, the company will discontinue operations or in this case, choose not to take part in the WSOCXC. The team formed by Company B consisted mostly of a family with one strong leader, that was responsible for the innovation and the ultimate decision-making process. The company owner has worked all his life in the ocean industry and already ran a company in another area of the maritime industry. The general human capital included the company owner's extensive knowledge about different aspects of the maritime industry as well as additional knowledge about equipment provided by other members of the team. The owner, with partners, was running an additional business on the side, which would lower the cost of abandoning the company as they had other employment opportunities. The company gained an extensive psychic income from partaking in the competition as they are very passionate about the development of the product. The psychic attachment to the company is high, which would increase the threshold significantly. Despite the fact that the company was new and without a physical product at that point, it does not mean that little time was spent developing the idea. The team heavily invested in the challenge, both financially and emotionally, which would increase the threshold. Even though the first round of testing and the participation in the competition was unsuccessful, compared to the expected outcomes, the company is still in business today and continuously

improving the system. The economic and psychic investment, together with the other factors could lead to the conclusion that the threshold for Company B should be high even though they have relatively low switching costs.

5.1.3 Company C

Company C entered the competition with one goal in mind, to win the competition and draw the benefits related to a victory. All decisions were taken in a democratic manner and everyone took part in the decision-making process. However, the team leader would take the final decision in case of a conflict. Therefore, there is a low level of need for autonomy associated with Team C. Since Company C was already established in the market, and was planning on using an already existing system, the goal was to draw advantages from the competition for marketing reasons, but also to win the prize money; the influence from the market environment is not extensive. However, as they did wish to increase their market share, the business environment did have some impact. Furthermore, the rivalry in the market, which consists of a few large players, and the view on the products as different and better than the competitors', would have had an influence on the decision to enter. Their expected outcome of the competition was to win and, as established players, they believed that they had a product that could accomplish that, which could be one of the more influential factors as to why they chose to enter the competition.

At first, Company C was hesitant to enter, since their system had some aspects that would need to be remodelled in order to be approved by the judges and comply with the rules of the competition. Company C performed the changes and developed their product to fit the competition and there is no evidence showing that they had to perform additional changes to their implementation process besides the planned ones. The only small change, that was made in the implementation process, was that two team members left the team because of personal reasons, and were replaced by two new employees from Company C. However, both of the team members that left, stayed in the company. Therefore, the perceived implementation shows a small difference compared to the actual implementation.

Company C was expecting to win the competition and to increase its market share. Before the competition they had experienced a steady growth and hoped to increase and prolong that growth by partaking in the competition. The expectation differs slightly

from the outcome; their market share and sales did increase after the competition and it is believed that they have a stronger position in the market after the competition than they had before.

Company C only had small differences in both the perceived implementation/outcome and the expectation/outcome relationship. Even though it is an old company, that fact could work as a motivator for participating in another competition in the future, but also to increase faith in their system, which could contribute to increased motivation for continued entrepreneurship. The rewards of participating were not only extrinsic rewards such as financial gain, improved relationship with the industry and free testing of their system. Intrinsic rewards, in the shape of positive feedback from customers, a sense of accomplishment and pride amongst the team members and increased team-working skills within the team, were the result of the competition.

The factors for continuous entrepreneurship, provided by Naffziger et al. (1994) correspond well to the actions taken by Company C. The differences in perceived implementation and expectation versus the actual outcome is minimal. The business environment would have increased motivation to enter, and the goals and characteristics of the team would also have been a great influence on the decision to enter and increased motivation. All aspects of Team C speak for a high level of continuous motivation.

According to Gimeno et al. (1997) one factor of the threshold model is the human capital of the team. As employees of Company C formed the team along with two additional people from a partnering company the team's knowledge in the area was extensive. Company C is established and therefore is expected to have extensive knowledge about the industry and their system. The threshold model indicates that for as long as the company's performance does not fall below the threshold, the company will continue in business (Gimeno et al., 1997). Since Company C is already established, the cost of switching field or industry would be very high, which raises their threshold significantly. Therefore, the psychic attachment to all aspects of the company, with their products and history, would also be considered high, which elevates the threshold further. Additionally, at the time of the WSOCXC, their market share was already growing, which, in turn, was signalling increased profits for Company C. By comparing the threshold and the economic performance it could be argued, according to Gimeno et al. (1997) that as long as performance stays over the threshold, it will continue in business.

Since Company C is a mature company, the liquidity of owners' assets, which also affects the threshold (Gimeno et al., 1997), would be low and contribute to a higher threshold as the cost of abandoning the company increases with low liquidity. The threshold is also determined by uncertainty about the future, if the organisational decision makers' have a belief in a successful future, the threshold will be influenced positively. Company C believed that their market share would continue to increase, which it also did. They also believed in increased sales, which also happened. All factors above influence the threshold and it could be argued that Company C have a high threshold and is likely to continue in business.

5.2 Cross-Case Analysis

In this section, the within-case analyses will be compared and analysed according to the empirical findings, shown in Table 2, below.

Motivations	**Entering the WSOCXC**	**Continuing Business**
Company A	Publicity Goal of the Organisation Belief in Product	Psychic Attachment High Switching Costs Economic Investment
Company B	Test the Technology Need for Achievement Need for Autonomy Personal Environment Publicity Goals of the Organisation Business Environment	Belief in Product Psychic Attachment Economic Investment
Company C	Prize Money Reputation Goals of the Organisation Business Environment Belief in Product	Expectation/Outcome Relationship Implementation/Outcome Relationship Psychic Attachment High Switching Costs

Table 2

5.2.1 Motivational Factors for Entering an Innovation Competition

The information collected regarding the reasons for, and the motivators behind, the contestants entering the WSOCXC correlate with the findings of previous researchers. According to the study conducted by Murray et al. (2012), the main motivator for participation in an innovation competition is publicity, and this relates to the data provided by the organisations that took part in this study. Additionally, motivators such as reputation and testing of the product were provided as reasons for entering the contests; these motivators were also presented by Murray et al. in their 2012 study. Furthermore, as previous research has revealed, the prize money does not seem to be a crucial reason for partaking, in fact, only Company C claims it to be a contributing factor. Contradictory, several of the companies state that a desire to win, in combination with the belief that they can succeed, was an important cause. However, this is not due to the prize money, but instead to the increased level of publicity associated with the victory.

The answers provided by the companies that participated in this study are shown to correlate to previous findings regarding the motivations for partaking in an innovation competition. However, a closer examination, of the answers provided, reveals further motivators for entering the WSOCXC. The motivators specifically outlined by the companies is a desires for attaining something (publicity, money, reputation etc.), however, there are several other aspects that influence, and motivate, the decision to partake in a competition such as the WSOCXC. These reasons are closely linked to the decision to engage in entrepreneurial activity, as the competition itself could be compared to a small industry (in which the contestants are competitors, the judges are customers and the prize money can be seen as the profit that a successful company would attain). Therefore, by analysing the information using the model of entrepreneurial motivation, presented by Naffziger et al. (1994), a better understanding of the underlying reasons for participating in an innovation competition can be achieved.

It is suggested that a need for achievement plays a part in the decision to engage in entrepreneurial activity. This can be witnessed throughout all companies who took part in this study; they all express a desire to succeed in the contest, and through this reach greater accomplishment in their market of operations. Likewise, the goal of the organisation seems to play a great part in the decision to compete; two companies claimed that they had the clear goal to win. With regards to this, however, the companies differed in

their level of confidence in the ability to accomplish their objectives. Company A expressed a belief that victory was achievable, Company C, on the other hand, is more humble. In fact, an uncertainty whether their product complied with the rules of the competition made them consider whether they should alternate the system or refrain from participating in the competition at all (it should be mentioned that Company B also questioned whether they should participate; this was however not due to a disbelief in the product, but rather a question of whether the technology could be completed in time). This suggests, that a clear motivation behind entering an innovation competition is not solemnly based upon having a clear goal, but also upon how one perceives the chances of actually reaching it, as well as the belief in one's business idea and product.

As publicity often is provided as a reason for participation in an innovation competition, one can assume that the business environment plays a part in the decision. According to the findings of this study, this is also the case. As mentioned before, increasing market share, or expanding the markets that they operate in, is provided as a reason for participation by the majority of the companies that took part in this study. Furthermore, Company B mentioned the narrowness of the industry as a main reason for partaking. The market environment affects the possibilities for market expansion as well as the ability to increase one's own market share – an open market, with few and insignificant players, is easier to operate within than a narrow market, which is ruled by a few key players. Within a market like the latter, companies are in greater need for factors that make them stand out of the masses, factors such as publicity as well as a stronger and better reputation. Both these factors are commonly provided as reasons for participation, and this suggests that the business environment can be a strong motivator for entering into an innovation competition. The other factors discussed in the previous sections, need for autonomy, personal environment and risk-taking propensity, are all present within the individual analysis of each company. Despite information indicating that these are underlying motivators for participation, there is not enough evidence to suggest that these factors are wide-ranging motivators that can be applied to more participants.

When asked to explain the motivations behind participation in an innovation competition, companies often claim publicity, reputation, the prize money as well as experience and testing of a product. These motivators have, both in this study and in research conducted by other authors, been provided to explain the reasons for participation.

However, there are more, often underlying, motivators that promote participation. By analysing the findings from this study, it can be shown that factors such as the goal of the company, the perception of one's product and business idea, as well as the business environment play key roles in the decision to participate in an innovation competition, such as the WSOCXC.

5.2.2 Motivational Factors for Continuing Business After Participation in an Innovation Competition

Naffziger et al. (1994) argue that when the expectations of an implementation process and its outcomes differ, a company should be less motivated to continue business. Furthermore, the authors also argue that the same should occur when the expected outcome of an undertaking does not match the actual outcomes. With regards to innovation competitions, this does, however, not seem to be the case. Company A had to conduct extensive alterations to their product during the course of the contest, as the testing facility could not manage the forces caused by the product. Company B experienced malfunctions, which greatly affected their testing results. Neither of the organisations had expected any issues in their implementation process. However, for Company C the expected implementation process corresponded to the actual outcome. They already knew that there were several alterations ahead, upon entering the contests. Furthermore, none of the studied companies won first prize, nor did any of them, expect for Company C, see any change in their position in the market, despite an expectation to do so.

Since the expectations of Company A and B differ greatly from the actual outcomes, they should, according to the model by Naffziger et al. (1994), not be motivated to continue business, in fact, the only company that should still be active is Company C. This is, however, not the case, all three companies are still running operations. This suggests that, with regards to innovation competitions, there is no correlation between the accuracy of one's expectations and the motivation to continue business after the competition has drawn to a close.

So what does motivate continued business after you have left an innovation competition, such as the WSOCXC, without the triumph of victory? Based on the threshold model by Gimeno et al. (1997), it could depend on more than just the outcome, and the results of this study support that theory. Firstly, all competing companies have invested large amounts of money in order to produce a product good enough to be able to

compete in the WSOCXC. Furthermore, additional funds should also have been invested into the companies in order for them to manage the day-to-day business. In addition to this, one can assume that an extensive amount of time has been invested, both into the competition and into the businesses. Due to this, it is not an outrageous assumption that the psychic attachment to the companies is high, and abandoning the company is therefore not an easy decision to make.

In addition to the psychic attachment to the companies, the information provided by the companies further suggest that there are no immediate undertakings that could become a substitution for the businesses. All research points towards the fact that Company A's and C's competencies lay solemnly within the oil clean-up industry, whereas Company B claims that their scope of experience can be found in various areas within the maritime industry. Therefore, changing industry is not an alternative for any of the companies. Furthermore, the cost of switching operations could also be found to be costly for all involved companies. Changing industry, especially when an extensive amount of money has been invested into the current field, does not come without cost.

It is clear that the threshold for all three companies is high; high enough for them to not having been influenced by the fact that they did not accomplish all that they intended to achieve. Furthermore, the models presented, disregard the financial position of the companies. Despite not having seen any significant increases in sales, or market share, related to the participation in the WSOCXC, all companies in this study are still profitable and thus see no reason for discontinuing business. The three companies might not have won the competition, but they still have successful products, and keep on improving some of the best products available in the market.

Finally, does participation in an innovation competition increase or decrease the chances of continuing business? Competing in an innovation competition is very costly, and the prize money will not cover these costs if you do not win. However, as the money invested goes straight into the competing product, the cost of participation should not be seen as wasted money. All companies are, with regards to the market, not better off after the contest, but they, at least the ones investigated in this study, are not worse off than when they started. In fact, they all claim that they leave the competition with more knowledge and information about their products. So, despite not winning the money or advancing significantly, they leave the competition more knowledgeable than when they

entered, and this could be enough to continue business. This could have an impact on the decision to continue business, that, or the fact that when they leave OHMSETT, they still have a viable business to return to.

6 Conclusion

The following chapter will answer the research questions and fulfil the purpose of the thesis. Additionally, concluding remarks on the findings of this study will be provided.

In this thesis the authors aimed to gain a deeper understanding regarding the motivation to enter into an innovation competition, as well as the motivation for continuous entrepreneurship after participation. The Wendy Schmidt Oil Clean-Up XChallenge, set by the XPrize Foundation, together with Wendy Schmidt, was used as the base of the study. The aim of the WSOCXC was to improve and re-design existing spill removal techniques and to find new, more efficient, solutions to oil clean-up technology. The authors have gathered extensive information regarding both the oil clean-up industry as well as the XPrize Foundation to form an extensive background. Additionally, by performing three interviews with finalists from the WSOCXC, information regarding their personal experiences, opinions and motivators have been collected.

Through a deeper understanding of what motivates losing contestants to sustain their business after the conclusion of the challenge, future contestants are enabled to attain measures to assure continued business. In turn, the chances of finding additional, new solutions to current issues can be increased. Furthermore, since financial rewards are not the sole reason for entering into an innovation competition, increased knowledge regarding both motivational factors and the events after the distribution of rewards, can aid foundations in designing the contest in a fashion that will create continuous motivation even after the event has been concluded.

What factors motivate entrepreneurs to take part in an innovation competition? The teams, that were examined, all came from different backgrounds and dealt with the challenges related to the competition differently. One team entered the competition convinced that they would win, as they believed they had a superior product. Similarly, one team entered the competition with the motivation to win the prize and exploit publicity related to the participation in the competition. Lastly, the third team stated that they entered in order to use the competition as a way to test and launch new technology. However, the motivation behind entering into an innovation competition is more complex. It is suggested that a need for achievement is an influential factor on the decision to take part in an innovation competition. All interviewed companies express a desire for success, to win or to develop their product and therefore participated in the challenge.

Moreover, the fact that the oil clean-up industry is a narrow market, with a few significant players, contributes to the motivation to enter. According to the findings of this thesis, participants often believe that the competition will be a distinguishing factor needed to gain market share. Furthermore, it was found that factors such as the goal of the organisation and the perception of one's product and business idea play key roles in the decision to participate in an innovation competition. Additionally, it was found that the prize money does not appear to be the foremost reason as to why a company would enter a competition; what is more important is the publicity opportunities provided by a innovation competition.

Finally, does the winner take it all? And what happens to the participants who do not win the prize money; what are their main motivators for continuing business after participation in an innovation competition? It was found that, contrary to theoretical knowledge, the difference in expectations and actual outcome did not affect the companies in a negative manner. However, it can be suggested, based on the findings of this thesis, that investments in the competition and the development of the product affect continuous motivation. Since, the psychic attachment to the company increases, the risk of abandonment decreases. Additionally, high costs of switching to other operations limit the risk of discontinuing the business. Lastly, since all participants of this study feel that they are, in fact, better off after the partaking in the WSOCXC, it can be suggested that the participation in an innovation competition does not increase the risk of abandonment of the company. Contrariwise, an innovation competition could impact the business positively and lead to a more viable business with more opportunities to be exploited. Finally, the authors conclude that the winner does, in fact, not take it all.

7 Discussion

This chapter will discuss the finding of the study, as well as its limitations and provide recommendations for future research.

The purpose of this thesis was to identify what factors motivate individuals and companies to participate in an innovation competition, as well as to find factors that motivate sustained business after the competition has drawn to a close. The findings regarding what motivates participation are, to some extent, consistent with findings of previous research. It has been found that direct motivators for participation, such as a desire for publicity or a stronger reputation, are important influences when taking the decision to partake. Furthermore, just as previous research, the findings of this study suggest that the prize money is not the primary reason for partaking in an innovation competition. However, the findings also propose further factors that encourage entrepreneurs to participate in an innovation competition. These factors, such as the business environment, the goal of the organisation and the perception of one's product and business idea, are not only direct motivators for partaking, it has also been found that some of these factors can increase the importance of attaining publicity, reputation as well as the possibility to test and develop products.

Previous research suggests that the decision for continuation of entrepreneurial activities is related to the relationship between an entrepreneur's expectations upon the implementation process and its results, as well as on the expected outcome, and the thereto related results. According to the findings of this study, this does, however, not apply to participants of an innovation competition. Research suggests that there is no relationship between these factors, and that continued business, after the contest has ended, is instead dependent upon the psychic attachment the entrepreneur has to her company, as well as upon how high the costs will be to switch to another area of business.

The findings of this study can contribute within the scope of innovation competitions through an increased knowledge regarding motivators for participation and continued business during the contests aftermath. Enhanced knowledge regarding what motivates entrepreneurs to partake in the competitions can help the founding organisations in attracting participants. This will, in turn, increase the chances of the founders of the competitions, as well as the sponsors of them, to reach their goal – to spur new innovative solutions to social and commercial issues throughout the world. Furthermore, the

findings regarding the connections between innovation competitions and sustained business afterwards, can aid participants in their preparation for operations after the end of the competition. Through knowledge regarding common motivators for continuing business, they have the possibility to make more informed decisions regarding their future.

7.1 Limitations

The companies examined in this study were all founded prior to the WSOCXC, none of them was a start-up designed solemnly for participation in the competition. Since all of the examined companies are of the same context – non-start-ups – limitations to the findings of this study could exist. Due to the possible difference, in the motivational factors for participating in an innovation competition, between start-ups and established businesses, the results of this study might be limited to companies that are established before the competition commences.

Furthermore, this study is conducted solemnly on participants of the WSOCXC. Due to the wide spectra of innovation competitions, the authors cannot guarantee that participants throughout the whole range of contests are motivated by the same factors, and the results of this thesis, could therefore, be limited to competitions in the same field as the WSOCXC.

7.2 Recommendations for Further Research

The research conducted in this study concerns companies, which are all started previous to the competition as well as with other intentions than sole participation in the WSOCXC. Due to the possible differences in factors that motivate start-ups, compared to established businesses, to participate in an innovation competition, further research on start-ups, specifically designed for an innovation competition, is recommended.

Furthermore, the conducted research only concerns participants in the WSOCXC, and could therefore be limited to competitions within the same field as the WSOCXC. A study regarding a wider range of innovation competitions is therefore recommended.

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Appendix 1

Interview Guide

Company/Individual information

- What position do you hold within the company?
- Briefly describe your company?

  Employees

  Company type

  Year founded

  Main area of business?
- Has this changed since before the competition?

Before/when entering the competition

- How did you learn about the Wendy Schmidt Oil Clean-Up XChallenge?
- Why did you decide to enter the XPrize competition?
- What were your expectations when entering the competition?
- How did your expectations compare to the actual outcomes?
- Did you, or anyone on your team, have any previous experience in the business? If yes, then what did you do?
- When you entered the competition, did the company already exist at that time or did you start up the company as a result of the competition?

For companies that already existed before:

- Has your position in the market changed (weaker or stronger) since the competition?

For start-up companies:

- Did you have alternative employment opportunities when you started the business?
- Did you quit your former employment, or close down a previous business, in order to launch the company?

  - Where you the owner/manager/employee in the previous business you were in before the competition?
- What were your sources of finance?
- How large was the part of your funding which was provided through personal funds?
- How many employees did your company have upon entering the competition?

Characteristics of the team

- How many members in the team?
- How was the team structured? Team leader/democracy/special areas?
- How was the teamed formed? Company decision, individual decision, team decision?
- Were all members of the team from your organisation?
- What was the average age of the team?
- How many male/female members in the team?
- Were all team members of the same nationality?

During the competition

- Did you make any drastic changes from the original technology during the competition?
- Did your team make any changes to the structure of the team during the competition?
- What do you think you could have done differently in order to win the competition?

After the competition

- Are you still using the same technology that you developed during the competition?
- What benefits did you draw from being part of the competition?
  Financial gains / Network / Marketing / Increased reputation / New business opportunities / Experience / Increase in Market Share / Other: _____

- What is the most important experience that you take with you from your participation in the XPrize Challenge?
- What were your expectations towards the future at the end of the competition?
- How do your expectations compare to the actual outcome?
- After the completion of the competition, do you feel that you are better or worse off than when you started?
- Upon completion of the contest, would you recommend others to take part in similar competitions?
- Is Wendy Schmidt/ XPrize Challenge in any way involved in your current business activities?
- To what extent do you think the challenge has had an impact on the development of the oil clean-up industry?

Continuous entrepreneurship

- What would you say are your main motivations to continue with your idea/business model/innovation/product?
- Why did you decide to continue with the business idea/technology after losing the competition?

For start-up companies:

o What were the reasons for you to start up the business?

o Was it a one-person or a team decision to continue with the business after completion of the challenge?

o How do you feel XPrize enabled the creation of your organisation? Did they have any impact?

o How do these benefits contribute to your current business?

The company today

- How do you perceive the future of your current business?
  The industry?
  Your company?
  Your products?

- How has your team (the team that participated in the competition) changed since the competition; have some members left, have some new members been admitted?
- How has your financial position changed since your participation in the competition?
- How has your position in the market changed since your participation in the competition?