



**NTNU – Trondheim**  
Norwegian University of  
Science and Technology

# Entrepreneurial Firm's perception and actions towards Opportunities in Recession

**Ingvild Anette Fagerjord**

Industrial Economics and Technology Management

Submission date: July 2013

Supervisor: Roger Sørheim, IØT

Norwegian University of Science and Technology

Department of Industrial Economics and Technology Management



## **Abstract**

The focus for this thesis is how entrepreneurial firms perceive and act upon opportunities in times of recession to learn about ways to get through it. To investigate this, this thesis take a look at an industry that is experiencing recession, the offshore wind energy industry in Norway.

This thesis found that entrepreneurial firms perceived many opportunities in times of recession, but *not due* to the recession, as a necessity. When it comes to how they act upon opportunities, this thesis found that all the entrepreneurial firms acted on opportunities regarding establishment of partnerships and collaboration. However, actually getting and holding this partnership were tough in times of recession. Entrepreneurial firms also highlight adaption and the firm's flexibility as important for the firm's survival

# Table of Contents

Abstract.....	I
1 Introduction .....	1
1.1 Research question.....	5
2 Frame of reference.....	6
2.1 The offshore wind energy industry.....	6
2.2 Literature review .....	10
2.2.1 Finding opportunities.....	12
2.2.2 Different types of opportunities.....	15
2.2.3 Source of opportunities .....	16
2.2.4 Exploiting opportunities .....	21
2.3 Opportunities in recession .....	23
2.3.1 Opportunity or threat? .....	24
2.3.2 Changes in demand.....	25
2.3.3 Collaborate.....	25
2.3.4 Flexibility .....	26
2.3.5 Adapt .....	26
2.3.6 Introduction of new products .....	27
2.3.7 Services .....	28
2.3.8 Multiple markets and geographies.....	28
2.3.9 Acquisition and mergers.....	29

2.4 Discussion - Literature in context of recession and offshore wind .....	30
2.4.1 Assumptions .....	30
2.4.2 Opportunity recognition, discovery or creation.....	31
2.4.3 Exogenous shifts-based opportunities.....	31
2.4.4 Exploitation .....	32
2.5 Summary.....	33
3 Methodology .....	35
3.1 Selection of method.....	35
3.2 Case selection.....	36
3.3 Transferability.....	38
3.4 The interviews .....	38
3.5 Analysing.....	39
3.6 Weaknesses of the study.....	40
4 Case study.....	42
4.1 Presentation of the case firms .....	42
4.1.1 WindFlip AS .....	42
4.1.2 OceanWind AS .....	43
4.2.3 WindSea AS.....	44
4.2.4 Blaaster Wind Technologies AS .....	45
4.2 Empirical findings .....	46
4.2.1 WindFlip AS .....	46

4.1.2 OceanWind AS .....	49
4.1.3 WindSea AS.....	54
4.1.4 Blaaster Wind Technologies AS .....	58
4.3 Case-by-case analysis.....	63
4.3.1 WindFlip AS .....	63
4.3.2 OceanWind AS .....	65
4.3.3 WindSea AS.....	67
4.3.4 Blaaster Wind Technologies AS.....	69
4.4 Cross case analysis and discussion .....	70
5 Conclusion .....	71
6 Implications and further research .....	72
6.1 Implications for entrepreneurial firms .....	72
6.2 Implications for policy makers.....	74
6.3 Future research .....	75
References .....	76

# 1 Introduction

Business cycles “consist of expansions occurring at about the same time in many economic activities, followed by similar general recessions, contractions, and revivals which merge into the expansion phase of the next cycle; this sequence of changes is recurrent, but not periodic; in duration, business cycle vary from more than one year to ten or twelve years” (Burns and Mitchell, 1946 as cited in Claessens et al., 2009). Recession is the contraction phase of the business cycle and is defined as “a significant decline in economic activity spread across the economy, lasting more than a few months, normally visible in real GDP, real income, employment, industrial production, and wholesale-retail sales”<sup>1</sup>. Recessions are not uncommon, they happen approximately every 6 years (Srinivasan et al., 2005), and when they do, they typically last about four quarters. In the 1960-2007 period, recessions have been observed to last as long as thirteen quarters (Claessens et al., 2009). The global recession, triggered by the financial crisis in USA in 2007, is considered the most severe recession since the Great Depression of the 1930's (Papaoikonomou et al., 2012, Claessens et al., 2009), and is by no means over yet (Fanelli and Evans, 2013).

During periods of recession consumers generally have less money to spend and cut back personal spending in response to the overall decline in economic activity. With less money on hand, they become more deliberate in their purchases, more sensitive to personal finances, and more likely to abstain from or delay purchases. Similarly, businesses cut back on spending to

---

<sup>1</sup> <http://nber.org/cycles/> retrieved 05.05.2013.

conserve cash, particularly on investment spending that can be deferred or delayed. As a consequence many firms engage in price cutting wars to produce sales, and reduction of staff and other desperate moves to cut costs. Investors get less willing to invest and credit from banks become less available due to the increased risk (Pearce II and Michael, 2006). This cause many firms to go under. An average of more than 500,000 businesses failed in the United States during each of the 10 recessions (now 11<sup>2</sup>) that have occurred there since the end of World War II (Pearce II and Michael, 2006).

Entrepreneurial firms with their relatively smaller size, little or no diversification, and considerable resource constraints are particularly affected by periods of recession. During the 1990-1991 recession in the US for instance, the failure rate in the manufacturer group had by mid-year 1991 risen 37% from the previous year (Pearce II and Michael, 1997).

Entrepreneurs and entrepreneurial firm are an important group. According to Parker (2012) they create jobs (Birch, 1979), commercialize and disseminate innovations (Acs and Audretsch, 1988), accumulate savings and wealth (Quadrini, 2000; Cagetti and de Nardi, 2006) and drive economic growth (van Stel et al., 2005). Another important feature the entrepreneur is claimed to have is their willingness to take on risk (Khilstrom & Laffont, 1979; Knight, 1921 as cited in Shane and Venkataraman, 2000, Landström, 1999). By finding more or less clear opportunities, and taking on the high risk in times of recession, the entrepreneurs and entrepreneurial firms can help drive economic recovery and growth by contributing to job creation and social progression (Elmore, 2009 as cited in Papaoikonomou et al., 2012, Parker, 2012).

---

<sup>2</sup> <http://www.nber.org/cycles/cyclesmain.html> retrieved 05.05.2013.



Because of the financial crisis and the Great Recession that followed, the economists have refocused their attention on the determinants of business cycles and recessions (Parker, 2012). However, little research have been devoted to help guide entrepreneurial firms through these tough periods (Pearce II and Michael, 2006, Pearce II and Michael, 1997, Papoikonomou et al., 2012, Parker, 2012).

This thesis explores the opportunities in recession as a step in helping entrepreneurial firms get through. Eckhardt and Shane (2003) distinguish between common profit opportunities and entrepreneurial opportunities, where entrepreneurial opportunities are defined as situations in which new goods, services, raw materials, markets and organizing methods can be introduced through the formation of new means, ends, or means-ends relationships. While non-entrepreneurial decisions maximize scarce resources across previously developed means and ends, entrepreneurial decisions involve the creation or identification of new ends and means (Gaglio and Katz, 2001) previously undetected or unutilized by market participants (Eckhardt and Shane, 2003). In broad terms, an opportunity may be the chance to meet a market need (or interest or want) through a creative combination of resources to deliver superior value (Schumpeter, 1934; Kirzner, 1973; Casson, 1982 as cited in Ardichvili et al., 2003). This thesis does not omit one or the other, all kind of opportunities can be useful in helping the firm survive. According to Shane (2000) entrepreneurs discover opportunities related to the information that they already possess. Inside information from entrepreneurial firms that have experienced recession can hopefully help others become able to find good opportunities and survive the tough contraction phase of the business cycle. To get this insight, this thesis take a closer look at four entrepreneurial firms in the offshore wind energy industry in Norway.

The offshore wind energy industry is a relatively new industry in Norway. In 2009 many believed the Norwegian petroleum industry to be heading into a new phase, the maturity phase, and the probability of finding new big oil fields to be slim. The European Union (EU) had determined a new and ambitious directive stating that by 2020 at least 20% of EU's energy consumption should come from renewable energy sources (Volden et al., 2009b). With much experience and knowledge from offshore activities there was therefore seen much potential in offshore wind. Former Oil and energy minister Terje Riis-Johansen stated multiple times in 2009 and 2010 that offshore wind power could become Norway's next industry and energy adventure, a statement also backed by Industry minister Trond Giske (Hansen and Steen, 2011).

New technology was needed and many new firms arose to the occasion and started developing new solutions. But the financial crisis reached Norway, new big oil fields were found (Aldous and Avaldsnes, announced august 2011<sup>3</sup>, now called the Johan Sverdrup field<sup>4</sup>) and political focused changed. According to Pearce II and Michael (2006) people in recession get less willing to invest in new products and projects. Entrepreneurial firms in the offshore wind industry, a new industrial production industry, will therefore be a typical group affected by the common business cycle and its downturns. And although Norway was not of the countries hardest hit by recession, the entrepreneurial firms in this industry started to struggle.

---

<sup>3</sup> <http://www.aftenposten.no/okonomi/innland/Nytenkning-ga-gigantfunn-i-Nordsjoen-6283883.html#.UaZmB9I3B6Y> retrieved 12.04.2013.

<sup>4</sup> <http://www.dn.no/energi/article2311691.ece> retrieved 12.04.2013.

## 1.1 Research question

Exploring opportunities is a step towards finding good ways for entrepreneurial firms to get through periods of economic recession. This thesis looks at four different entrepreneurial firms in an industry hit by recession, the offshore wind energy industry in Norway, and asks:

1. How do entrepreneurial firms perceive opportunities in recession?
2. What opportunities do they see?
3. How do they act upon opportunities?

## 2 Frame of reference

### 2.1 The offshore wind energy industry

Offshore wind energy is production of electricity from wind turbines out at sea. One distinguishes between three different types of offshore wind technologies: Firstly, there are bottom-mounted windmills in shallow water < 20 meters. Secondly, there are bottom-mounted windmills in medium deep/deep waters. Lastly, there are the floating windmills (Volden et al., 2009b).

The technology for the last two types was in September 2009 ranked technological and market immature. The bottom-mounted in shallow waters, however, is considered mature both in terms of technology and market (Volden et al., 2009b). Numbers from January 2012 by The European Wind Energy Association showed that there were 1371 turbines installed and grid connected, totaling 3813 MW in 53 wind farms in ten European countries: up from 1136 turbines, totaling 2946 MW in 45 wind farms in nine European countries at the end of 2010. The farms are being deployed in deeper and deeper water. The average water depth of offshore wind farms where work was carried out during 2011 was 22.8 meters. This is substantially more (+31%) than in 2010, when average water depth was 17.4 meters. There were only two full scale grid-connected floating turbines (Association, 2012).

One of the floating turbines is Hywind in Norway. This was the world's first full-scale floating wind turbine. In 2009 Statoil invested around NOK 400 million in the construction and further development of the pilot, and in research and development related to the wind turbine concept. Through the first two years of testing, the concept has been verified, and it continually exceeds

performance beyond expectations. According to Statoil (2012) the Hywind concept could with few operational challenges, excellent production output, and well-functioning technical systems revolutionize the future of offshore wind<sup>5</sup>. The second full-scale floating offshore wind project is developed by Principal Power and located in Portugal<sup>6</sup>.

The market and technology for floating and bottom-mounted in deeper water can still be considered immature; there are still no floating wind turbines in commercial operation anywhere in the world as of May, 2013. However, things are starting to happen within this field. Due to the major earthquake and the tsunami causing a nuclear accident in Japan in 2011, the country now prepares to build the world's largest commercial power plant using floating windmills to cut its reliance on atomic energy. Land-based wind-energy development is limited by Japan's mountains, making offshore developments more viable, and the depth of its oceans creates a bigger potential for floating turbine technology. The country aims to develop the floating offshore wind turbines for commercialization by March 2017<sup>7</sup>.

Also in America the interest seems to be increasing. The first grid-connected offshore wind turbine deployed off the coast of North America, VoltturnUS in 1:8 size, was launched in Brewer on May 31 2013 by the University of Maine's Advanced Structures and Composites Center and its partners<sup>8</sup>. Statoil is also connected to a project to commercialize floating wind there. The USD 120 million project would put four 3MW wind turbines on floating spar-buoy structures

---

<sup>5</sup><http://www.statoil.com/en/TechnologyInnovation/NewEnergy/RenewablePowerProduction/Offshore/Hywind/Pages/HywindPuttingWindPowerToTheTest.aspx> retrieved 18.04.2013.

<sup>6</sup>[http://www.nawindpower.com/e107\\_plugins/content/content.php?content.11350](http://www.nawindpower.com/e107_plugins/content/content.php?content.11350) retrieved 20.04.2013.

<sup>7</sup><http://www.bloomberg.com/news/2012-03-29/floating-windmills-in-japan-help-wind-down-nuclear-power-energy.html> retrieved 15.05.2013.

<sup>8</sup><https://umaine.edu/news/blog/2013/05/30/the-launch-of-voltturnus-18/> retrieved 04.06.2013.

tethered to the seabed in 140 meters of water off Boothbay Harbor, and power could be flowing into the grid, via undersea cable, by 2016<sup>9</sup>.

Offshore wind farms far from land offer some clear advantages compared to the farms near shore or on land. In coastal areas there is potential for much conflict, especially in terms of shipping lanes, fisheries, birds and sea mammals. Further offshore the wind is stable and stronger. This makes it possible to utilize larger wind turbine generators up to 5MW, 6MW and 10MW, and therefore possible to produce energy at a much higher capacity and yield compared to onshore. There is plenty of space, less noise restrictions and no visibility from shore.

The potential for wind energy production offshore is estimated at 100,000 TWh per year worldwide, more than five times the present global electricity production. A large 1000 MW offshore wind farm consisting of 200 5MW turbines can produce more than 4 TWh a year. That is roughly equivalent to the annual electricity consumption of 850,000 average European households. The Norwegian energy agency Enova estimated the physical potential from offshore wind energy in Norwegian Sea areas alone to be about 14,000 TWh a year. By comparison, Norway's annual electricity consumption stands at 125 TWh<sup>10</sup>.

Larger turbines, deep waters and harsh weather conditions make it more complex to construct, transport and install wind farms offshore<sup>11</sup>. Statoil used NOK 400 million to get up their pilot, Hywind. The oil and gas company, Statoil ASA, is one of the Nordic countries largest groups

---

<sup>9</sup> <http://www.pressherald.com/news/PUC-approves-maine-statoil-wind-turbine-offshore-deepwater.html?pagenum=full> retrieved 06.06.2013.

<sup>10</sup> <http://www.norwind.no/en/Topmenu/About-Us/About-offshore-wind-energy.aspx> retrieved 05.05.2013

<sup>11</sup> <http://www.norwind.no/en/Topmenu/About-Us/About-offshore-wind-energy.aspx> retrieved 05.05.2013

and the world's largest offshore operator<sup>12</sup>, not many entrepreneurial firms have the same ability to fund such an expensive project<sup>13</sup>, especially not with a financial crisis and a recession going on.

In Norway there are several public institutions that contribute with funding to help entrepreneurial firms realize their ideas. Among them are Innovation Norway, the Norwegian Research Council and Enova, who work together to promote research and technology development aimed against future energy solutions<sup>14</sup>. Common for all the public funding schemes is that it requires the firm to contribute with equity to get the additional funding<sup>15</sup>. The Norwegian Research Council, for instance, has a program called RENERGI (CleanEnergy). It helps fund R&D projects within renewable energy where companies collaborate with each other or research institutions to develop new knowledge and new solutions. For firms doing innovation projects, RENERGI can offer support up to 30-50% of approved project costs. Research institutions that collaborate with businesses can gain up to 80% support<sup>16</sup>.

The ongoing recession, triggered by the financial crisis in USA in 2007, is considered the most severe recession since the Great Depression of the 1930's (Papaoikonomou et al., 2012, Claessens et al., 2009), but while recessions may be triggered by events in a single sector, its effects are usually widespread (Lilien and Srinivasan, 2010). Internationally, renewable

---

<sup>12</sup><http://e24.no/naeringsliv/dette-er-norges-ti-stoerste-selskaper/20266605> retrieved 07.06.2013.

<sup>13</sup><http://www.innovasjon Norge.no/energi-og-miljo/Finansiering/teknologiutvikling/> retrieved 02.06.2013.

<sup>14</sup><http://www.innovasjon Norge.no/PageFiles/15438/Fornybar%20energi%20og%20energieffektivisering.pdf> retrieved 02.06.2013.

<sup>15</sup><http://www.innovasjon Norge.no/energi-og-miljo/Finansiering/teknologiutvikling/> retrieved 02.06.2013.

<sup>16</sup><http://www.innovasjon Norge.no/PageFiles/15438/Fornybar%20energi%20og%20energieffektivisering.pdf> retrieved 02.06.2013.

investments were hit hard by the financial crisis from autumn 2008. The really major downturn began in the first quarter of 2009, when the new financial investment fell to \$ 13.3 billion, a decrease of 53% compared with the same period in 2008<sup>17</sup>.

Offshore wind is in Norway positioned between hydropower and petroleum. With the energy policy, offshore wind competes with hydropower in terms of KWh and with industrial policy; offshore wind competes with the petroleum industry to get the funding<sup>18</sup>. With new found oil, higher oil prices<sup>19</sup> and a struggling renewable energy industry, the essential funding became less available to the new offshore wind industry. And with a minimum 50% requirement of self-financing and cost up to NOK 400 million for one turbine, not many entrepreneurial firms were able to continue their original business.

## 2.2 Literature review

In short, recessions cause lowered sales, decreased margins, and reduced credit, yielding significant shocks to the resources available to the firm, thus threatening its survival (Pearce II and Michael, 2006). With customers decreasing their purchases, lenders lending less and investors investing less, things can seem very hopeless. Many firms do not see any other alternative than to give up and close the shop. How can the decision maker make his firms survive when everyone seems to be struggling, the money is running out and the moral in the

---

<sup>17</sup> [http://www.oreec.no/arch/\\_img/9081244.pdf](http://www.oreec.no/arch/_img/9081244.pdf) retrieved 08.06.2013.

<sup>18</sup> [http://www.ntnu.no/c/document\\_library/get\\_file?uuid=183aca23-503d-4923-9617-25c78bfcfef3&groupId=7414984](http://www.ntnu.no/c/document_library/get_file?uuid=183aca23-503d-4923-9617-25c78bfcfef3&groupId=7414984) retrieved 07.06.2013.

<sup>19</sup> <http://energiogklima.no/kommentar-analyse/mulighetene-som-druknet-i-olje/> retrieved 10.06.2013.



whole company is sinking? Should they respond by cutting prices, change the product or partner-up with someone? How do the firm best get through?

To understand differentials among firm's performance, strategic management examines firm's efforts to develop sustainable competitive advantages as a determinant of their ability to create wealth (De Carolis, 2003; Rouse & Dallenbach, 1999). Favorable market positions (Porter, 1985) and the possession of valuable, rare, imperfectly imitable and nonsubstitutable resources idiosyncratic to the firm (Barney, 1991) are the most frequently cited sources of sustainable competitive advantage (Ireland et al., 2003). According to Ireland et al. (2003) recent arguments suggested that the *most* important competitive advantages are based on resources that are *more* valuable, rare, imperfectly imitable, and nonsubstitutable than those held by competitors (Gove, Sirmon & Hitt, 2003). These factors are important for a firm's performance, however during periods of recession it is not necessarily enough to make it through. As few studies are devoted to help guide entrepreneurial firms survive a recession (Pearce II and Michael, 2006, Pearce II and Michael, 1997, Papaoikonomou et al., 2012, Parker, 2012), this thesis looks to a research field on a group that is experts in finding good opportunities; the entrepreneurs.

Entrepreneurship and strategic management are both concerned with growth and wealth creation (Amit & Zott, 2001; Hitt & Ireland, 2000; Hitt, Ireland, Camp & Sexton, 2001, 2002; Ireland, Hitt, Camp & Sexton, 2001; Morris, 1998; Priem & Butler, 2001b), although their foci differ slightly. Strategic management is concerned with understanding the reasons for differentials among firm's wealth creation in various economies (Farjoun, 2002; Teece, Pisano & Shuen, 1997 as cited in Ireland et al., 2003). Recognition and development of new opportunities are at the heart of entrepreneurship (Tang et al., 2012). Similar to Ireland et al. (2003) this

thesis does not assume nor argue that entrepreneurship and strategic management are a single discipline that has been subdivided, but complementary disciplines.

### **2.2.1 Finding opportunities**

Opportunities are not simply found. There are many different theories of how opportunities come into being. Vaghely and Julien (2010) sums up some of the theories: According to Shane (2000) opportunities are discovered; Baron (2004, 2006) says that they are recognized; they are enacted through retrospective sensemaking according to Gartner et al. (2003); socially constructed say Sarason et al. (2005) and constructed and intentionally perceived according to Kruger (2000, 2003). Ardichvili et al. (2003) claim that while elements of opportunities may be “recognized,” opportunities are made, not found.

Sarasvathy et al. (2010) describe opportunity recognition, opportunity discovery, and also a third, opportunity creation:

- 1. Opportunity Recognition** is described as when both sources of supply and demand exist rather obviously, but has to be “recognized” and matched-up. Recognition is about the exploitation of the existing market and can include taking advantage of arbitrage possibilities or starting a franchise. Introduction of wind turbines in shallow water can be said to be an example of this. One recognized that the wind turbines used on land also could be used in the water without major alterations.
- 2. Opportunity Discovery** is when only one side exists, that is demand exists, but supply does not, and vice versa. In these cases the non-existence side has to be “discovered” before the match-up can be implemented. An example of this is cure for diseases. Demand exists, but not supply, it has to be discovered. Bottom-mounted offshore

turbines in deep water can be placed in this category or in the next, dependent on the country's need for power. One recognized a market for more clean power, but had to discover and develop new solutions for how to place turbines in deep water to take advantage of the opportunity.

- 3. Opportunity Creation** is described as the situation where neither supply nor demand exist in an obvious manner, one or both have to be “created”, and several economic inventions in marketing, financing etc. have to be made for the opportunity to come into existence. An example of this is the light bulb. People first had to get electricity to be able to use this invention.

Shane and Venkataraman (2000) has received extraordinary following (Dahlqvist and Wiklund, 2012). According to Shane and Venkataraman (2000) human beings all possess different stocks of information and these stocks of information influence their ability to recognize particular opportunities. Stocks of information create mental schemas, which provide a framework for recognizing new information. Shane and Venkataraman (2000) state that the reason why some people will discover opportunities while others will not is contingent on two issues: “(1) the possession of prior information necessary to identify an opportunity and (2) the cognitive properties necessary to value it.” That is, to recognize an opportunity, an entrepreneur has to have prior information that is complementary with the new information, which triggers an entrepreneurial conjecture (Kaish and Gilad, 1991). This prior information might be about user needs (Von Hippel, 1986) or specific aspects of the production function (Bruderl, Preisendorfer, and Ziegler, 1992 as cited in Shane and Venkataraman, 2000).

## **Alertness**

Entrepreneurial alertness is a central part of theoretical models seeking to explain the identification of new opportunities (Tang et al., 2012). According to Kirzner (1973) the entrepreneur can be described as an active and creative person with special abilities (Landström, 1999). These special abilities include alertness, which he defines as an individual's ability to identify opportunities that are overlooked by others. It links skills, insights and awareness to the discovery of new opportunities (Tang et al., 2012). Kirzner (1979) developed the term “entrepreneurial alertness” as the ability to see where products (or services) do not exist or have unsuspectedly emerged as valuable. In other words, alertness exists when one individual has an insight into the value of a given resource when others do not. From this perspective, entrepreneurial alertness refers to “flashes of superior insight” that enable one to recognize an opportunity when it presents itself (Kirzner, 1979 as cited in Alvarez and Busenitz, 2001).

Tang et al. (2012) further develop the boundaries of alertness, and define it as consisting of three complementary elements: (1) Scanning and searching for information, (2) connecting previously-disparate information, and (3) making evaluations on the existence of profitable business opportunities. Building on Kirzner's early theories, Tang et al. (2012) describe alert scanning and searching as constantly scanning the environment and searching for new information, changes, and shifts overlooked by others. Extending alertness as a part of the entrepreneurial cognition process (Alvarez and Busenitz, 2001; Mitchell et al., 2007), this dimension involves pre-existing knowledge, preparedness, and sensitivity to new opportunities. The second dimension, alert association and connection, involves pulling together disparate pieces of information and building them into coherent alternatives. This dimension corresponds with Kirzner's later work on alertness (1999) and addresses how individuals cognitively respond

to and process new information clues. Building on McMullen and Shepherd's (2006) recent work, Tang et al. (2012) suggest that the third dimension involves making evaluations and judgments about the new changes, shifts, or information and deciding if they would reflect a business opportunity with profit potential.

### **2.2.2 Different types of opportunities**

Entrepreneurial opportunities are those situations in which new goods, services, raw materials, and organizing methods can be introduced and sold at greater than their cost of production (Casson, 1982 as cited in Shane and Venkataraman, 2000). Entrepreneurial opportunities differ from the larger set of all opportunities for profit, particularly opportunities to enhance the efficiency of existing goods, services, raw materials, and organizing methods, because the former require the discovery of new means-ends relationships, whereas the latter involve optimization within existing means-ends frameworks (Kirzner, 1997 as cited in Shane and Venkataraman, 2000).

The entrepreneurial opportunities come in a variety of forms. Drucker (1985) has described three different categories of opportunities: (1) the creation of new information, as occurs with the invention of new technologies; (2) the exploitation of market inefficiencies that result from information asymmetry, as occurs across time and geography; and (3) the reaction to shifts in the relative costs and benefits of alternative uses for resources, as occurs with political, regulatory, or demographic changes (Shane and Venkataraman, 2000).

Based on prior literature Eckhardt and Shane (2003) also categories the different types of entrepreneurial opportunities into three groups. These categories are (1) by the locus of the

changes that generate the opportunity, (2) by the source of the opportunity and (3) by the initiator of the change. Eckhardt and Shane (2003) state that although most entrepreneurship research implicitly assumes that entrepreneurship involves changes in products or services, entrepreneurial opportunities can, in fact, occur as a result of changes in a variety of parts of the value chain.

Schumpeter (1934) suggested five different loci of these changes: those that stem from the creation of new products or services, those that stem from the discovery of new geographical markets, those that emerge from the creation or discovery of new raw materials, those that emerge from new methods of production and those that are generated from new ways of organizing. For instance; from the development of the internet, new modes of organizing that do not require bricks and mortar locations also generate opportunities for entrepreneurial profit. Similarly, the discovery that seaweed could be sold as a food in the United States as well as Japan generates the opportunity for entrepreneurial activity, as did the discovery that oil provided a better fuel than many other raw materials previously discovered. New methods of production, such as the assembly line or computer-aided drug discovery, have also provided opportunities for entrepreneurial profit (Eckhardt and Shane, 2003).

### **2.2.3 Source of opportunities**

Tang et al. (2012) claim that new opportunities may emerge as a result of prior experience, personal dispositions, from gaining specific information, being a frustrated user or changes in the broader environment. Recession does not necessary only have to be a bad thing, it creates many changes in the environment, and changes can often be a source of opportunities for the alert entrepreneur (Tang et al., 2012).

Eckhardt and Shane (2003) believe that prior research suggest four important ways of categorizing opportunities by sources. The first involves considering differences between opportunities that result from asymmetries in existing information between market participants, and opportunities that result from exogenous shocks of new information. The second comparison lies between supply and demand side opportunities. The third differentiates between productivity-enhancing and rent-seeking opportunities. The fourth lies in identifying the catalysts of change that generate the opportunities.

Two major contributors to the field of entrepreneurship are Joseph A. Schumpeter and Israel Kirzner. They disagree over whether exogenous shocks are the primary catalyst of entrepreneurial opportunities. Schumpeter (1934) held that periods of market efficiency are punctuated by periods of upheaval. Changes in technology, regulation, and other factors generate new information about how resources might be used differently. This information changes the price for resources, thereby allowing economic actors who have early access to the new information to purchase resources at low prices, use the information to create products or services and sell them at an entrepreneurial profit (Schumpeter, 1934; Shane & Venkataraman, 2000 as cited in Eckhardt and Shane, 2003). In contrast, Kirzner (1973, 1985, 1997) holds that opportunities exist even in the absence of this new information. In the absence of prices, he argues, people form beliefs in response to information they possess. Because those beliefs are influenced by a wide variety of ceaselessly changing factors, they are never 100% accurate. As a result, market actors make mistakes in their decisions, creating shortages and surpluses of resources (Gaglio and Katz, 2001). People alert to these mistakes can obtain resources and use them to create a profitable new product or service (Shane and Venkataraman, 2000 as cited in Eckhardt and Shane, 2003).

Existing research describes several dimensions of opportunities that result from exogenous shifts in information. Exogenous shifts include shifts like those spurred by government action, those triggered by demographic changes, and those generated by the creation of new knowledge. The exercise of government power influences the volume, distribution and types of opportunities available (Eckhardt and Shane, 2003).

According to Eckhardt and Shane (2003) the most researched exogenous shift is that catalyzed by the creation of new knowledge. New knowledge creates the opportunity for entrepreneurs to create new goods, to introduce new methods of production, to utilize new sources of supply, to restructure industries, and to create new markets in new regions (Schumpeter, 1934) by replenishing the pool of opportunities that is drawn upon by entrepreneurs in their pursuit of profit (Klevorick, Levin, Nelson & Winter, 1995 as cited in Eckhardt and Shane, 2003).

The nature of the knowledge itself is likely to influence the volume and type of entrepreneurial opportunities. Knowledge may be either generic or specific to a single application. Moreover, it may be tacit or codifiable, and it may draw on the integration of multiple technological fields and disciplines. Knowledge may also be easily isolated or it may be imbedded in a complex system and therefore not well understood (Malerba & Orsenigo, 1997). In all cases, the knowledge characteristics of industry may help determine the types and volume of opportunities available for discovery and exploitation (Eckhardt and Shane, 2003).

Another important source of opportunities is information asymmetries. Drucker (1985) discusses four sub-sets of opportunities based on information asymmetries: Firstly, incongruities may exist between micro-level behavior and macro-level outcomes. For example, an industry might face macro-level inefficient allocation of resources, such as investments in large-scale production



facilities that serve markets with cyclical demand. These cyclical enterprises are frequently accompanied by rising demand and poor performance, are typically profitable only at peak points in the industry cycle, and therefore signal that a superior business model or production plan may be more profitable (Eckhardt and Shane, 2003). Secondly, Drucker state that incongruities may exist between realities of an industry and generally accepted assumptions about it. For example, a widespread belief may exist that the key to increasing firm performance is to invest in a specific technology. However, such a relationship may not exist; creating an opportunity for those that recognize that expected performance increases are not materializing. Widespread unprofitable investments in vehicle efficiency instead of improvements in logistical technology in the shipping industry are an example of such an opportunity (Drucker, 1985 as cited in Eckhardt and Shane, 2003). Thirdly, incongruities may exist between the efforts of an industry and the particulars of consumer demand. In this case, firms fail to recognize that latent demand exists for only minor modifications to existing products, or for an overlooked demographic group. As a result, opportunities exist to simply do what other people have failed to do because of the latter's cognitive errors. Lastly, internal incongruities may exist within the rhythm or the logic of a key industry process. In this case, opportunities exist for improving key steps in industry routines that have been perpetuated without question. An opportunity exists if entrepreneurs can transfer the process improvement to the focal industry (Drucker, 1985; Levin et al., 1987 as cited in Eckhardt and Shane, 2003).

### **Supply vs. demand side changes**

Opportunities can be classified on whether the changes that generate them exist on the demand or the supply side. In general, the entrepreneurship literature implicitly focuses on the supply side. Changes in demand alone however, can generate opportunities. Customer preferences influence the allocation of resources because producers need to respond to the preferences and

purchasing habit of consumers. Thus, demand changes from exogenous shifts in culture, perception, tastes, or mood can open up opportunities (Kirzner, 1997; Schumpeter, 1934 as cited in Eckhardt and Shane, 2003).

### **Productivity-enhancing vs. rent-seeking opportunities**

According to Eckhardt and Shane (2003) much of what researchers imply when they discuss entrepreneurship is productive entrepreneurship. In the standard view, the pursuit of entrepreneurial opportunity has productivity-enhancing outcomes, as economies are made more efficient. However, it is also possible to think of entrepreneurial actions as private rent-seeking, which Baumol (1990) has defined as opportunities that generate personal value, but no social value. He points out several types of entrepreneurial opportunities that are not productivity-enhancing, including crime, piracy, and corruption. Merger activity also provides a good example of the potential for both productive and unproductive entrepreneurship, if a merger merely shifts wealth from consumers to producers by reducing competition (Eckhardt and Shane, 2003).

### **Initiator of the change**

Eckhardt and Shane (2003) classify opportunities based on the actor that initiates the change. Different types of entities initiate the changes, which result in entrepreneurial opportunities, and the type of initiator is likely to influence the process of discovery as well as the value and duration of the opportunities. Among the different types of actors that researchers have identified are non-commercial entities, such as governments or universities; existing commercial entities in an industry, such as incumbents and their suppliers and customers; and new commercial entities in an industry such as independent entrepreneurs and diversifying entrants (Klevorick et al., 1995 as cited in Eckhardt and Shane, 2003).

## 2.2.4 Exploiting opportunities

The exploitation of an opportunity refers to those activities and investments committed to gain returns from the new product arising from the opportunity through the building of efficient business systems for full scale operations (Choi and Shepherd, 2004).

Ardichvili et al. (2003) state that (1) entrepreneurial alertness, (2) information asymmetry, (3) social networks, (4) personality traits; including optimism, self-efficacy and creativity; and (5) the type of opportunity itself to be major factors that influence the opportunity recognition and development to business formation. Shane and Venkataraman (2000) also point out the characteristics of opportunities themselves as an important influential factor for people's willingness to exploit them. Eckhardt and Shane (2003) claim that for an entrepreneur to exploit an opportunity, he or she must believe that the value of resources, used according to a particular means-ends framework, would be higher than if exploited in their current form. According to Shane and Venkataraman (2000) research has shown that, on average, entrepreneurs exploit opportunities having higher expected value. In particular, exploitation is more common when expected demand is large (Schmookler, 1966; Schumpeter, 1934), industry profit margins are high (Dunne, Roberts, & Samuelson, 1988), the technology life cycle is young (Utterback, 1994), the density of competition in a particular opportunity space is neither too low nor too high (Hannan & Freeman, 1984), the cost of capital is low (Shane, 1996), and population-level learning from other entrants is available (Aldrich & Wiedenmeyer, 1993 as cited in Shane and Venkataraman, 2000)). Accordingly, the decision to exploit an opportunity involves weighing the value of the opportunity against the costs to generate that value and the costs to generate value in other ways. Thus, people consider the opportunity cost of pursuing alternative

activities in making the decision whether or not to exploit opportunities and pursue opportunities when their opportunity cost is lower (Amit, Mueller, & Cockburn, 1995; Reynolds, 1987 as cited in Shane and Venkataraman, 2000). In addition, people consider their costs for obtaining the resources necessary to exploit the opportunity. For example, Evans and Leighton (1989) showed that the exploitation of opportunities is more common when people have greater financial capital. Similarly, Aldrich and Zimmer (1986) reviewed research findings that showed that stronger social ties to resource providers facilitate the acquisition of resources and enhance the probability of opportunity exploitation (Shane and Venkataraman, 2000).

Ireland et al. (2003) also point out the firm's financial standing when it comes to the exploitation of opportunities. From a strategic- or advantage-seeking behavior perspective, opportunities can be pursued only when the firm has the capabilities required to do so (De Carolis, 2003 as cited in Ireland et al., 2003). Ireland et al. (2003) suggest making an opportunity register where the firm records entrepreneurial opportunities. Placing all opportunities into a register makes them visible to multiple parties, some of whom already possess the capabilities needed to pursue them. Thus, opportunities identified by those in one part of the firm can be exploited by those working in other divisions or units in which the opportunities may be more valuable (Ireland et al., 2003). It can also be useful in prioritizing which ones to pursue, when one cannot afford to do them all.

Choi and Shepherd (2004) analysis of a sample of entrepreneurs whose businesses are located in incubators suggests that entrepreneurs are more likely to exploit opportunities when they perceive more knowledge of customer demand for the new product, more fully developed necessary technologies, greater managerial capability, and greater stakeholder support.

Timing is also essential for the exploitation decision. Firms following a prospector strategy (Miles & Snow, 1978) are focused on assessing and using entrepreneurial opportunities to act quickly while a firm following a defender strategy is more concerned about the precise timing of exploiting an entrepreneurial opportunity (Ireland et al., 2003). According to Choi and Shepherd (2004) research, entrepreneurs can exploit the opportunity as fast as possible to lengthen their lead time. Lead time refers to the period of monopoly for the first entrant prior to competitors entering the industry. Lengthening one's lead time can generate important performance benefits, including helping the firm strengthen its brand name (Schmalensee, 1982), broaden its product line (Robinson & Fornell, 1985), achieve cost advantages through experience effects (Abell & Hammond, 1979), and maintain higher margins in the absence of price competition (Porter, 1985). Alternatively, entrepreneurs can take time and gather information to reduce uncertainties and build the firm's resources and capabilities before making the decision to enter the market and exploit the opportunity (Choi and Shepherd, 2004).

### **2.3 Opportunities in recession**

John A. Pearce II and Steven C. Michael (1997, 2006) are two of the few authors that write about how entrepreneurial firms can become more recession resistant. They claim that a firm with emphasis on marketing as opposed to other business functions is more likely to become aware of the recession, to make necessary internal adjustments, and to identify and pursue external opportunities (Pearce II and Michael, 1997).

With a better understanding of the origin and types of opportunities, one now should be better able at recognizing and discovering opportunities. The following sections discuss what the

perception of recession entails and presents some of the opportunities that may be found in recession, and lastly this section finishes with a short summary.

### **2.3.1 Opportunity or threat?**

A crisis can be perceived both as a threat and as an opportunity (Penrose, 2000). Sarasvathy, Simon, and Lave (1998) have shown that successful entrepreneurs see opportunities in situations in which other people tend to see risks (Shane and Venkataraman, 2000). In the context of environmental change, like a recession, those with an entrepreneurial cognition often see new opportunities where others tend to be concerned with protecting themselves from emerging threats and changes (Alvarez and Busenitz, 2001).

Research by Dutton and Duncan (1987) and Dutton and Jackson (1987) suggest that how an organization perceives a change in the environment, significantly affects both the level and the type of response. Accordingly, firms that view a recession as an opportunity perceive that they have control over both the situation and the resultant outcome, and therefore, invest during the recession (e.g., building marketing assets). The firms that consider the recession a threat, perceive a lack of control over the situation and the resultant outcome, and respond by conserving resources (Srinivasan et al., 2005).

Big investments during a recession are very risky (Srinivasan et al., 2005). No recession is the same, both the duration and amplitude of each business cycle and its movements vary substantially; as fingerprints - no two are alike (Bromiley et al., 2008). It is hard for anyone to tell how long it is going to last. One may expect the recession to soon be over, be surprised that it is heading in the wrong direction and be stuck with products or equipment it is impossible to sell

and costly to hold. In order to detect opportunities and threats Pearce II and Michael (1997, 2006) suggest that the entrepreneurial firm must engage in constant scanning for information about the macroeconomic environment, as well as industry and competitive conditions in a cost-effective manner.

### **2.3.2 Changes in demand**

As mention earlier, opportunities can be classified on whether the changes that generate them exist on the demand or the supply side (Shane and Venkataraman, 2000). During periods of recession consumers generally have less money to spend and cut back personal spending in response to the overall decline in economic activity (Pearce II and Michael, 2006), as a consequence demand is likely to go down for many high-end products. In terms with microeconomics and the product's income elasticity, consumers may demand cheaper products instead of the high-end products due to lowered income (Case and Fair, 2007). This can create opportunities for new low-end products.

### **2.3.3 Collaborate**

Reaves and Deimler (2009) propose a number of strategies to gain competitive advantage in times of recession. Partnership with the competitors is one of them (Papaoikonomou et al., 2012). Opportunities can be created by combining the different firm's products, which can lead to a decreased need for investors help, or make the total product seem better and less risky, so investors dare to invest after all.

*Networking.* During recessions your network becomes even more important. Alvarez and Busenitz (2001) argue that involvement by entrepreneurs in distant and varied social

interactions facilitates the gathering of diverse, unusual, and sometimes specific information. It can lead to exposure to chaotic bits of information that sometimes get combined in usual ways and sometimes lead to new endeavors (Alvarez and Busenitz, 2001). As resources are scarce, investments dry up and customers spend less, the network you have can be used to find others in the same situation. A collaboration or a partnership, whether it is with the competition, suppliers, producers of substitutes or customers can give access to desperately needed resources or help you recognize and discover new opportunities.

Burt (2000) alleged that you through a good network can get exposure to an opportunity, access to information, referrals, sharing of resources and knowledge (financial and human capital), and at a critical time (Papaoikonomou et al., 2012, Burt, 2000). Pearce II and Michael (1997) do also point out the importance of information, and claim that it plays a crucial role in helping entrepreneurial firms survive recession. The information, or the lack of it, creates opportunities (Pearce II and Michael, 1997). According to Burt (2000) a well-structured network does not only give access to the critical information, it also gives control and advantages in negotiation settings.

### **2.3.4 Flexibility**

One of the advantages of the entrepreneurial firm is its greater flexibility (Pearce II and Michael, 1997). Pearce II and Michael (1997) claim that through marketing activities the small entrepreneurial firm is likely to remain knowledgeable about customer needs, and the flexibility makes it able to adjust production more rapidly than the larger competitors.

### **2.3.5 Adapt**



Realizing the change in needs due to the recession and being able to adapt to those needs faster than the competitor can create many opportunities. According to Alvarez and Busenitz (2001) entrepreneur's heuristic-based logic appears to give them a competitive advantage in quickly learning about new changes and what the implication of those changes are for the development of specific discoveries. Entrepreneurial firms perform well in hostile and uncertain environments partly because they adapt their efforts to the prevailing conditions and seek competitive advantage by taking risks in such environments (Covin & Slevin, 1989 as cited in Srinivasan et al., 2005)

### **2.3.6 Introduction of new products**

In times of recession, Pearce II and Michael (2006) claim competitors are relatively "quiet". Hence, a recession can be an especially effective time to introduce new products because the availability of advertising and distribution may help a fledgling product capture customer loyalty early (Pearce II and Michael, 2006). Pearce II and Michael (2006) also highlight the fact that many customers claim they buy less during recessions since companies introduce less innovations in their product lines.

#### **What kind of products should one introduce?**

A recession affects different industries differently (Pearce II and Michael, 2006). Knowing how, can help you recognize and discover opportunities. Pearce II and Michael (2006) describe a cyclic industry as an industry where sales coincide with the phases of the business cycle. In a recession, a cyclical industry is characterized by stable or falling prices, decreases in real earnings, excess production capabilities and high unemployment. Examples of cyclical industries include durable goods manufacturers such as auto makers, producers of apparel and other textile products, producers of paper and paperboard mills, computer manufacturers, home

builders, and industries such as real estate, travel, media and electronics (Pearce II and Michael, 2006).

According to Pearce II and Michael (2006) there are also counter-cyclical and non-cyclical industries. The counter-cyclical industries experience increased sales during recessions. While rare, such industries include insurance, food, home remodeling and maintenance, and alcoholic beverages. The performance of non-cyclical industries is unrelated to the state of the economy. During periods of recession, consumer must continue their expenditures on necessity products such as food and health care. Other industries that perform well during recessions include accounting, auditing and bookkeeping services, soap, cleansers, and toiletries (Pearce II and Michael, 2006).

### **2.3.7 Services**

According to Pearce & Michael (2006) people in recession get less willing to invest in new products and projects and prefer to fix or optimize what they have by using more services. GDP for services actually increased during the recessions with average severity (Pearce II and Michael, 2006). As consumers continue spending on services, you can use the recession and decreased product demand to introduce (more) service offerings, or offer solutions instead of just products.

### **2.3.8 Multiple markets and geographies**

Recessions do not affect all places equally or simultaneously. Usually one region of the world is affected more than another. When the economy contracts in one part of the world, it usually expands, or at least is stable, in others (Pearce II and Michael, 2006). Recognizing that others

are in recession while your firm is not might be a source of opportunities. Your firm might be able to get quality resources and technology to highly reduced prices as those firms are struggling and trying to cut prices to attract and retain customers (Pearce II and Michael, 2006).

Recession elsewhere may also give access to undervalued human resources. Rising unemployment that accompanies a recession deepens the pool of qualified labor and reduces wage pressures. Therefore, countercyclical hiring, hiring in times of downturns, allows organizations to staff a higher quality workforce at lower wages. In contrast, firms that continue to hire at premium wages in the late stages of an expansion may increase their cost structure relatively to firms that stop hiring or cut back on their workforce in anticipation of a recession (Bromiley et al., 2008). Bromiley et al. (2008) state that workers do not simply switch their jobs after being hired during a recession once the recovery ensures because of a “status quo tendency” in decision-making (e.g. Samuelson and Zeckhauser, 1988; Silver and Mitchell, 1990), while March and Simon (1958) argue that satisfied workers do not search for information on other employment.

### **2.3.9 Acquisition and mergers**

Companies acquire other companies for many reasons – to eliminate a rival and boost pricing power, to secure an important factor input, to achieve economies of scale in production or marketing, and so on. Regardless of the purpose of an acquisition, its performance depends on the purchase price. If stock price relative to firm value varies over the course of the business cycle (as co-movements of the stock market and business cycle suggest), firm that acquire when price to value is low should benefit relative to those that buy when price to value is high (Bromiley et al., 2008).

If your firm is in good financial standing and looking for expansion possibilities, a recession can be a time for bargains. During a recession, acquisition targets are likely to be weakened, and therefore less expensive. Competitors are also less likely to jump into the bidding process. As a result, growth and expansion through acquisition may become less expensive during a recession and, ultimately, more profitable (Pearce II and Michael, 2006).

According to Eckhardt and Shane (2003) a merger or break-up of firms can also lead to change in resource use and create productive opportunities as new customer relationships or economies of scale are generated.

## **2.4 Discussion - Literature in context of recession and offshore wind**

### **2.4.1 Assumptions**

According to Eckhardt and Shane (2003) for the past 30 years, the dominant theories in entrepreneurship have sought to explain entrepreneurship as a function of the types of people engaged in entrepreneurial activity and, as a result, have largely overlooked the role of opportunities. Eckhardt and Shane (2003) suggests a shift away from the "entrepreneurial type" paradigm and other types of people to a paradigm of entrepreneurship that is embedded in the concept of disequilibrium and incomplete information about opportunities. They state that use of their framework can be used to test central questions about the discovery, evaluation and exploitation of opportunities. And as this thesis focus on opportunities, it assumes a state of disequilibrium according to their framework and focuses on the opportunities itself. (For theories regarding equilibrium and the people involved see e.g. Schumpeter (1934) and Kirzner (1973))

Srinivasan et al. (2005) state that the greater the perceived severity of the recession, the fewer the choices managers have in responding to the recession, and therefore, are less likely to treat the recession as an opportunity. The current recession is the most severe since the 1930's, it is therefore likely that the managers of the entrepreneurial firms in this thesis see few opportunities.

#### **2.4.2 Opportunity recognition, discovery or creation**

Cohen and Winn (2007) state that given that demand for alternatives to the over-utilization of natural resources cannot be easily predicted ex-ante and that supply of alternative technologies to harness renewable resources (such as wind, water, hydroelectric, or solar) are not widely commercially available, entrepreneurs addressing this market imperfection are likely to do so through opportunity "creation" (i.e. creating new markets). In Norway the power demand is almost 100% covered by hydro power<sup>20</sup>, it is an old and mature market. Land based wind and wind power in shallow water can also be said to be mature. Both wind in deep water and floating wind are said to be immature both in term of market and technology and can thus be categorized into this last group of opportunity creation. In the Norwegian context, the technology for offshore wind turbines had to be developed, and before the consumer can start using this power, grids of underwater power lines have to be laid out. There is no direct need for offshore wind, and thus not only the technology has to be created, the market also needs to be.

#### **2.4.3 Exogenous shifts-based opportunities**

---

<sup>20</sup> <http://www.stortinget.no/no/Saker-og-publikasjoner/Publikasjoner/Representantforslag/2011-2012/dok8-201112-112/1/> retrieved 06.06.13.

As mentioned, exogenous shifts include shifts like those spurred by government action. The exercise of government power influences the volume, distribution and types of opportunities available (Eckhardt and Shane, 2003). This is clear in the case of the offshore wind industry in Norway. In 2009 and 2010 the industry was blooming, but with the found of new oil and new politicians in charge, the situation now are completely different. While former Oil and energy minister Terje Riis-Johansen believed in the industry and stated multiple times in 2009 and 2010 that offshore wind power could become Norway's next industry and energy adventure (Hansen and Steen, 2011), many firms saw potential in this new industry and started developing solutions. The current Oil and energy minister Ola Borten Moe have a much stronger focus towards the oil and gas industry, an suggest less support to the wind industry and rater focus on capturing and storage of CO<sub>2</sub><sup>21</sup>. The opportunities is said to have drowned in oil<sup>22</sup>.

#### **2.4.4 Exploitation**

What action is the best? There are many dependencies. The firm's market share, industry, product-market profile and financial leverage for instance (Lilien and Srinivasan, 2010). For firms with strong financial standing before the recession, an aggressive strategy may be the best choice; think about cyclist in the Tour de France - the fittest and strongest do not attack on the flat or early in the race but attack on the roughest, steepest, most grueling sections. Attacking when times are tough allows them to separate themselves from the weaker cyclist and provides them a return later on (Lilien and Srinivasan, 2010). Lilien and Srinivasan (2010) claim their research show that weaker firms can try to keep up with the strongest (trying to chase the

---

<sup>21</sup> <http://www.aftenposten.no/nyheter/iriks/Borten-Moe-vil-kutte-subsidiering-av-fornybar-energi-7230055.html> retrived 25.06.2013.

<sup>22</sup> <http://energiogklima.no/kommentar-analyse/mulighetene-som-druknet-i-olje/> retrieved 10.06.2013.

stronger cyclists in tough conditions) and risk out-and-out failure or they can conserve energy for a reasonable finish. Accordingly, the strong (those with the skill, the will and the till (money that is)), should invest in franchise building activities, such as new product development and brand enhancement, during the recession, while the less strong should focus on securing core customers and markets for the long haul (Lilien and Srinivasan, 2010).

## **2.5 Summary**

To sum up, when it comes to opportunities, theory suggests that entrepreneurial firms can become successful or survive periods of recession by:

1. Perceiving the recession as an opportunity instead of a threat (Alvarez and Busenitz, 2001, Srinivasan et al., 2005)
2. Merger, create a partnership or cooperating with competitors, customers, suppliers or others (Alvarez and Busenitz, 2001, Papaoikonomou et al., 2012, Burt, 2000, Eckhardt and Shane, 2003)
3. Using its smaller size and flexibility to adapt and realign to the changes (Pearce II and Michael, 1997, Srinivasan et al., 2005, Alvarez and Busenitz, 2001).
4. Offer non- or counter-cycle products and (more) service(s) (Pearce II and Michael, 2006).

5. Taking advantage of others (firms, areas, etc) that are affected harder by the recession (Pearce II and Michael, 2006, Bromiley et al., 2008).

How do entrepreneurial firm perceive a recession, are they able to see opportunities regarding these issues or are there other element they see as more important? And have they seen these opportunities as important enough to take action? In light of this thesis' research question, it uses these five takeaway points as framework for further investigation of entrepreneurial firm's opportunities in recession.



## **3 Methodology**

### **3.1 Selection of method**

The focus for this thesis is how entrepreneurial firms perceive and act upon opportunities in times of recession to learn about ways to get through it. To investigate this, this thesis take a look at an industry that is experiencing recession, the offshore wind energy industry in Norway. Many writers emphasize the importance of the entrepreneurial firm, but few have devoted research to help guide entrepreneurial firms through the tough periods of recession (Pearce II and Michael, 2006, Pearce II and Michael, 1997, Papaoikonomou et al., 2012, Parker, 2012). There is also scarcity of studies of opportunity, both theoretical and empirically, with the overwhelming majority of studies focusing on the individual or firm (see Eckhardt and Shane, 2003; Venkataraman, 1997 as cited in Dahlqvist and Wiklund, 2012). A recent review of the literature only found a handful of studies that empirically addressed opportunities and opportunity discovery (Dimov, Forthcoming as cited in Dahlqvist and Wiklund, 2012). This thesis combines the two fields in an effort to help entrepreneurial firms survive recession. Eisenhardt (1989) emphasize that a qualitative approach can make a significant contribution to theory development when key themes are weakly developed, and so it is in this case. And according to Yin (2008) case studies are the preferred method when (a) “how” or “why” questions are being posed, (b) the investigator has little control over events, and (c) the focus is on a contemporary phenomenon within a real-life context. This thesis look at a typical how-question; how entrepreneurial firms perceive and act upon opportunities, and it is a contemporary phenomenon; it is in the case of recession. As an investigator, this thesis has no control of people’s perception or how the firms have acted; it is not something that could be investigate with experiments in a lab. As some of the firms have gone under, direct observation to get an

understanding of their perception and action would be impossible. Survey would probably leave out dependencies and would not give a real in-depth understanding. Histories are the preferred method when there is virtually no access or control (Yin, 2008), but as this thesis had access to firms that experienced recession, and sources of data online, case study and in-depth interviews was deemed the best suited choice for research.

### **3.2 Case selection**

Case selection started with all renewable energy industries, except hydropower, as it is such a strong and established industry in Norway. Power in itself can be said to be a non-cyclic product; demand for power is relatively stable from year to year. The hydropower industry is therefore not likely to be much influenced by recession. New and not strongly established industries, which still are in the development stage, and highly dependent on investments on the other hand, are likely to be strongly affected by the business cycle and its downturns. This is because investments that can be deferred or abstained often is during a recession, in addition, credit becomes less available from banks due to the increased risk (Pearce II and Michael, 2006). The offshore wind industry, and particularly floating wind and bottom-mounted in deep water, are still immature both in terms of technology and market (Volden et al., 2009a). Entrepreneurial firms in this industry, a new industrial production industry, will therefore be a typical group affected by the common business cycle and its downturns. The selection of companies in one industry, the offshore wind industry, was made to more easily compare the companies to each other, as they have nearly the same conditions for recognizing and exploiting opportunities.

Eisenhardt (1989) points out that random selection are not necessary, and not even desirable, when doing case studies. In term with the arguments above, this thesis used these five criteria for selection of the entrepreneurial firms:

1. Connected to the offshore wind industry
2. Relatively new, but not so new that the firm did not go through the financial crisis; i.e. established before or under the crisis, but not earlier than year 2000
3. Established in Norway
4. Focus or producers of new technology
5. Focus on company growth

Finding firms that fulfilled these criteria was done through aid from experts in the renewable energy field, my supervisor, and with use of company registration web-pages such as Proff.no, Forvalt.no, Purehelp.no and Brreg.no. These company registration web-pages provides company details like time of establishment, employment, the income statement, balance sheet, the companies' shareholders and subsidiaries. The companies own web-pages, the industry newspaper Teknisk ukeblad ([www.tu.no](http://www.tu.no)), and other newspapers have also been used to get firm insights for selection of companies, and for gaining in-depth insights into the offshore wind industry. In addition, this thesis have made sure to select firms in all technical groups; bottom-mounted in shallow water, in deep water and floating. This thesis also took consideration to the firm's level of success; firms with different level were chosen. Success was in this thesis measured by the firm's activity level now – well into the recession. Two of the cases exist on paper, but are not active anymore; the other two are active, one with limited capacity, and one with full capacity. This was done to see if the maturity of the industry and success level seemed to influence their perception, ability to see opportunities and decisions to exploit.

### **3.3 Transferability**

The entrepreneurial firms, in this renewable energy industry, often have very high production cost on their products and little or no diversification. They focus on one core technology and costly products that takes years to develop, and are thus dependent on large investments to get their companies up and running. This makes the data transferable and relevant to many entrepreneurial firms, in other high cost type industries, experiencing recession. This includes for instance; manufacturers of machinery and equipment, firms in other renewable energy industries; e.g. solar energy, wave power, tidal power, ocean current or osmotic power.

### **3.4 The interviews**

The interviews lasted between 30 and 60 minutes, and were all conducted within the month of May 2013. Two of the interviews were done through face-to-face interviews. The other two were done through use of video-calls; one with use of Skype and the other at the firm's own conference video-room. In both cases of video-calls, the quality of sound and picture were good. Representing the firm were people with strong connection and knowledge of the firm's situation through the past years; founders, CEO, general managers and board members.

A long time was used beforehand to fully read into the firms. Their own web-pages were used, financial statement and all news articles where they had been mentioned. This was done to get a good understanding of their products, situation, to be able to ask appropriate additional questions and to have multiple sources of data.

This thesis used semi-structured interviews with open ended questions. Emphasis was placed on the interviewee telling their own story and using their own words. The questions were asked in an indirect way to not be leading.

The interviews consisted of 3 parts. The first section was collection and confirmation of firm background information. The second part consisted originally of six open-ended questions, to get an understanding of their perception of recession, and the opportunities they saw. The third section addressed possible opportunities according to what theory suggests, and questions regarding how they followed up on the opportunities they saw. In all sections additional follow-up detail question were asked, and the questions were adapted to their previous responses. All interviews were recorded and transcribed afterwards to get a good grasp on the data, and to make sure the information was accurate interpreted when analyzed. They were also asked if they wanted anonymity or not. As they did not, firm information is found in the following section of this thesis.

### **3.5 Analysing**

Empirical research on entrepreneurship and business cycles is still in its infancy and research methodologies in this area remain under-developed at the time of writing (Parker, 2012). This thesis therefore uses its own framework based on several theories, as described in the previous chapter, when analyzing. The empirical results were drawn from the transcribed material on a case-by-case basis, according to the five points in the literature review. Additional empirical materials regarding the research questions were also included in this thesis. The cases were further analyzed and compared. The analyzing process cannot be seen as a linear. One of the strengths of undertaking qualitative research is the constant iteration between emerging

concepts, data and literature ( Yin 1984, Eisenhardt 1989, Miles and Huberman 1994 as cited in Sørheim, 2003). When analyzing, this thesis focused on similarities and dissimilarities between the cases, and particularities within firm at the same time; jumping back and forth.

### **3.6 Weaknesses of the study**

According to Yin (2008) a major prejudices against the case study method is that it is influenced by the writers biased view. There is also a danger that respondents will try to rationalize their behavior, report a desirable response or try to put their firm in a better light. The respondent however, seemed to be intrigued by the subject of this thesis, and open-heartily shared their stories.

Effort was put into not influencing the interviewee. This was done by dividing the interview in three sections, in a sense to not “give away the answers”, and by asking open-ended and not leading questions. The questions however, may also be criticized; having been too open, not highlighting the focus of opportunities enough.

As the questions were regarding event in the past, there is always a possibility of retrospective bias, since people tend to remember past events in more favorable terms than they actually occurred in (Seidler, 1974). It is also likely that some of the opportunities the interviewee saw around the start of the recession in 2008 have been forgotten, thus narrowing the results.

As the focus for this thesis is on opportunities, it has not included all theories and strategies as to how to overcome a recession. This means that there are some important elements, for how to better get through periods of recession, lacking in this thesis.

The study is done with a small sample of entrepreneurial firms in the offshore wind industry in Norway. Though they are in different fields of the industry, the cases in thesis can be criticized for being too similar and give to little basis for scientific generalization, as it only concentrates on one industry and because it consists of only 4 firms. Even though the firms are only in this one industry, they can be described as a very “typical” technical entrepreneurial companies when it comes to recession; the small size, its age, focusing on growth and new technology.

Since all the interviews were conducted and transcribed in Norwegian, the data had to be translated into English before used in this thesis. This may have caused some errors in the following chapters, as some words or meanings might have been lost in translation.

## 4 Case study

In this chapter the four case firms and the empirical results are presented. The results are then analysed case-by-case, compared to each other and discussed.

### 4.1 Presentation of the case firms

#### 4.1.1 WindFlip AS

“WindFlip is an innovative technology company based in Stavanger, Norway. With its novel technology WindFlip strives to deliver transportation and installation solutions in the global emerging market of offshore floating wind power. Described in its simplest form our solution is a barge that is able to transport a fully assembled turbine in horizontal position from onshore to the final installation location far off coast. At the installation site the turbine is launched by filling ballast tanks in a way that rotates the barge and turbine into vertical position.”<sup>23</sup>

WindFlip AS started as a student start-up at Norwegian University of Science and Technology's School of Entrepreneurship (NSE). Their original product is described in their own words above. The company was active between January 2008 and June 2012. During this time the company first had five students working for free and when they graduated, two of the team-members decided to continue and work full-time on developing the company and its product. They applied and received several grants; from Innovation Norway, and an IRD - Industrial research and development contract with Statoil, for development of a prototype in 1:45 scale. As one can see from their own description, the company belongs in the third technology group; the floating

---

<sup>23</sup> <http://www.windflip.com/organization.aspx> retrieved 18.06.13.



offshore wind group. The company is now hibernating in hope for the market to mature. With me for the interview was founder and general manager; Ane Christophersen.

#### **4.1.2 OceanWind AS**

“OceanWind was established in 2008 by Scatec (Alf Bjørseth) and Grieg Group to develop and plan offshore wind farms. The company focuses on the use of innovative technology that makes it possible to install fixed offshore turbines at water depths greater than 20 meters far from the coast”.<sup>24</sup>

The company was established as a spin-off from its sister-company; Norwind AS. As one can see from their own description above, the focus is on the second technology group; the bottom-mounted in deep water. The company employed five full-time employees in addition to some part-time employees hired in from the mother company; Scatec. Scatec is primarily a catalyst for new business ideas and an incubator for new technology companies within the renewable energy field.<sup>25</sup> Due to OceanWind’s business model as product developers, the company had major expenses for several years before they expected to cash in on the investment. They started with some financing from their owners and were supposed to find additional investors. The financial crisis hit Norway and these became hard to find. Today the company still exist on paper, but there is no activity. The interview was conducted with the prior CEO, in the time period 2008 - 2010; Ivar Slengesol.

---

<sup>24</sup> [http://www.scatec.no/no/News/090320\\_MarineWind-Alliance-to-see-UK-Offshore-wind-energy-rights.aspx](http://www.scatec.no/no/News/090320_MarineWind-Alliance-to-see-UK-Offshore-wind-energy-rights.aspx) retrieved 15.05.2013.

<sup>25</sup> <http://www.scatec.no/no/Topmenu/Om-Scatec/Forretningsstruktur.aspx> retrieved 15.05.2013.

### 4.2.3 WindSea AS

“WindSea AS is developing, testing and plans commercialize a new, innovative offshore wind turbine platform. WindSea is owned by FORCE Technology and NLI, both leading players in their respective fields. WindSea is a new concept for offshore wind turbine platforms. The concept is being developed using the accumulated experience of the founders in the offshore industry. Issues particular to offshore wind turbine deployment such as fabrication, access, installation, and maintenance are effectively addressed by the WindSea design. The WindSea concept consists of a floating platform supporting 3 wind mills. The semi-submersible vessel is moored to the sea bottom with the mooring lines connected to a turret at the vessel geometric centre. This configuration allows the vessel to rotate. The vessel is therefore always able to orient the turbines optimally towards the incoming wind.”<sup>26</sup>

One of the firm’s owners is FORCE Technology (FT) a Danish company. Denmark is well established and a strong actor within the wind industry, Norway is regarding the offshore industry. The opportunity to combine the two sets of expertise was recognized; and WindSea was established in 2008.<sup>27</sup> Statkraft was in the beginning the majority owner, but today only FT and NLI remain. WindSea have according to general manager never had employees. WindSea have used the owner’s capabilities; temporarily hiring as needed. At most the company employed 10 full-time workers. The company is still running, dough with limited capacity. The

---

<sup>26</sup> <http://www.windsea.no/about-windsea/> retrieved 01.05.2013.

<sup>27</sup> <http://www.forvalt.no/foretaksindex2/firma/FirmaSide.aspx?orgnr=992796731> retrieved 18.06.2013.

company is in the third technology group; focusing on floating wind. The interview was conducted with managing director of WindSea and FORCE Technology: Henning Arnøy.

#### **4.2.4 Blaaster Wind Technologies AS**

“Blaaster Wind Technologies is developing a direct-drive wind turbine concept that first will be realized in an onshore 3MW unit for all wind conditions. By Blaaster’s platform strategy, the turbines can also easily be realised in larger turbine sizes. The Blaaster turbines are based on the best experience of more than 15 years of wind power knowledge. The Blaaster concept is a low-maintenance concept, optimized for manufacturing around the world, easy road transportation over long distances and with a favourable all over weight not seen before on large direct-drive wind turbines. We are developing the next generation wind turbines. The ability of the vessel to rotate, leads to the advantage that the turbines do not need a traditional yaw-system that allows them to rotate individually. This reduces cost.”<sup>28</sup> “Blaaster’s first prototype was installed summer 2012 at Valsneset test center in Norway. The head office of the company is in Trondheim, Norway.”<sup>29</sup>

Behind the firm are Torolf Pettersen and his son Ove Pettersen, who previously developed and sold the firm ScanWind AS to General Electric (GE) in 2009. Today the firm employs 8 full-time employees. During the development of the prototype there were 12-15 in the stab; 20-25 including the construction workers. The firm is active with full capacity. Blaaster focus on turbine

---

<sup>28</sup> <http://supplier.windcluster.no/public/profile/11> retrieved 20.06.2013.

<sup>29</sup> [http://www.blaaster.no/?page\\_id=2](http://www.blaaster.no/?page_id=2) retrieved 25.06.2013.

technology and are developing a turbine that can be used most places with small alterations, and can thus be placed in the first technology group; wind in shallow water. With me for the interview was Camilla Jørås Larsen. She is a board member, administration manager and daughter of the founder; Torolf Pettersen.

## 4.2 Empirical findings

### 4.2.1 WindFlip AS

#### 1. Perception

When asked if they saw anything positive regarding the recession WindFlip highlighted that there became more public founding schemes available. *“There became more money one could apply for”* and *“...there were more focus on start-ups. Focus on these firms making it, not from private hold, but from the government”*. She said that it was a strong focus on renewable energy and many of these schemes had a focus on it too, but that there also came a package with more available funding as the waves of the financial crises hit Norway in 2009-2010. *“It was a long time since Norway had found major oil founds and it was in a way much more focus on renewable energy”*. She states; *“the industry was “full steam ahead” and it was suppose to last to 2013, but then a great shift came”*. Accordingly, the fact that the firm consisted of so young members was highlighted as something positive, and gave them extra attention in the media. Ane perceived the customers as lacking and things taking much longer time. She emphasized that the industry of floating offshore wind is very immature and that this made it very hard for them, as they had to wait for others firms to develop their product to be able to sell their own, and that the whole industry stopped moving forward. Ane believed good financial standing to be

essential to get through. *“You have to have cash to get through a recession.” “It may be possible to get money during a recession, but as it is a crisis, demand on what you are delivering goes down, which makes it hard”.* She said the public schemes were good but; *“if you do not have a customer in the end saying we want this product, it will be hard to collect from investors or public funding.”*

## **2. Merger, create a partnership or cooperating with competitors, customers, suppliers or others**

According to Ane, the strategy was all along to gain a strong partner or being acquired. *“To get a partner was really the strategy all along. We are a small firm in a very capital-intensive industry, so we have to get bigger players to back us up. Whether in the form of a joint venture or they integrating us fully, or joint venture project based, it is entirely dependent on the course of time, but we have to get a partner with us in the future.”* Ane said WindFlip went actively out to all kinds of actors, mostly by phone calls; *“everything from designers to operators, i.e. shipping companies, and tried to offer our product as part of their end-product to customers”.* *“The problem is that it was so long into the future, nobody needed to take a stand on it now, and thus we were not able to gain a partner at this time.”*

## **3. Using its smaller size and flexibility to adapt and realign to the changes**

Ane said they made several changes to the business model and their product; *“We changed things all the time. When one talk to people, one get a better understanding of the industry and get an overview over the players involved and then one has to adapt to their needs.”* When it comes to the technology Ane believe it to have very limited possibilities for adoptions.

Regarding flexibility and adaption she stated that *“one has to be able to do something else in these times, when it is impossible to get financing, to be able to survive”*.

#### **4. Offer non- or counter-cycle products and (more) service(s)**

As they were struggling to sell and find partners, they changed their business model to include service. For  $\frac{3}{4}$  of a year the two members of the firm worked as consultants. Ane stated that they took an active choice on the subject; if they wanted to continue as a duo and working as consultants or if they wanted to be employees in a bigger firm till the market became more mature. She believed that they could have kept the company going as a consultant agency, but it was not what they wanted. *“We had the opportunity to adapt, and we did to a certain amount, we were doing it for almost a year, but we found out, it was not what we wanted continue doing.”* *“Our idea seems to be far in the future, 6-7 years and so we wanted to try something else in the meanwhile.”* They hope to go back to their main product if and when the market becomes ready.

#### **5. Taking advantage of others (firms, areas, etc) that are affected harder by the recession**

When asked if they saw any opportunities as the competition were struggling and pulling out, Ane said that they did not. *“For us the biggest issue was all along that the market was very immature and there were very few competitors.”*

Regarding opportunities in other countries; Ane claimed that Norway was the leading country at the time. *“The market is most mature in Norway, and it is very immature here.”* *“We are not on the wind field in general, only floating wind, and we do not deliver a wind mill, so we cannot go to Germany for instance, and say if you take a chance on us we can give you a park.”* But

WindFlip had been in conversations with Japan. Accordingly, the problem is that *“the technical solutions are not ready yet”* and that Japan wants to be independent and produce their own solutions, *“which means that it takes even longer time”*. *“It is of course a good opportunity if it is tough one place; look somewhere else”*.

When asked if they saw any other opportunities due to the recession Ane highlighted the extra attention they got *“we did not notice in the beginning, but we notice later on when more and more companies went under and had to close down, you gain extra attention. But this was maybe closer to the end than the beginning, and by then, our firm was at the rim, so I do not believe it to be a great opportunity really”*. She added that this extra attention also may have lead to greater support from public founding, i.e. Innovation Norway.

Regarding taking action on the opportunities they saw, Ane believed that they had done so to the max. *“We have gotten as much funding as we could have gotten, and developed the concept as far as possible, the way the company have been and regarding the maturity of the industry. I do not believe we could have done anything different, besides timing.”*

#### **4.1.2 OceanWind AS**

##### **1. Perception**

The positive, Ivar believes is that *“one really becomes pushed to be as creative as possible. One has to “dig down” and become innovative.”* Ivar points out that they had a good and strong environment surrounding them as part of the Scatec incubator. He also believed OceanWind to have a certain financial strength collaborating with the Grieg Group, *“but the financial crisis also affected our owners.”* As Scatec’s other firms experienced some major losses, e.g. in the solar

industry, this also affected OceanWind.

Ivar tells me they started with two owners and that they were supposed to find additional investors. *“We started developing the projects. And at the same time, we were working the capital market, and trying to get more investors in 2009. It was hard, it was straight after the financial crisis, in addition, we were a relatively new start-up and did not have much substance in the company yet. We came close, but did not manage to find investors within a certain deadline.”* He believes their business model to be particularly hard to cope with during times of recession. Ivar said they found it hard to find investors, and due to the crisis the whole industry became delayed. *“The delay is hard to handle when one for years only have expenses and then waits for a big payout with delivery.”*

Ivar believes a recession can be a great time for starting a company; *“If one strikes the bottom, and if you are lucky and good, you will hit the bottom and experience the upturn, but timing is hard.”*

## **2. Merger, create a partnership or cooperating with competitors, customers, suppliers or others**

Ivar believes clusters to be good for finding partners. Accordingly, OceanWind saw the opportunity to develop projects in the UK and Germany, and the clusters helped the company find partners to get an alliance going with other large European companies, which made it possible to enter the competition for a major project in the UK. *“We had a strong alliance.”* *“Through networks we aligned us with a Swiss venture capital company, a Belgian entrepreneur company; a maritime company with 200 vessels, a large company, and the world’s second*



*largest owner of wind power, a Spanish company.*” OceanWind and the alliance were not able to win the contract; they became second. One of the competing concepts was by Statoil and Statkraft. Ivar said that their alliance were strong, but he believed in the end that they would not have been able to lift the project, as some of the partners also began to struggle due to the recession and had to change their business models.

The company has also collaborated with other specialized companies namely; NorWind, OWEC Tower, BiFab Ltd, Grieg Logistics, and Troll Wind Power.<sup>30</sup> Ivar also point out that they got many benefits from being in the Scatec incubator. According to Scatec and Ivar they *“contributed with knowledge, international network and technical expertise to maximize the likelihood of developing a successful business.”*<sup>31</sup>

### **3. Using its smaller size and flexibility to adapt and realign to the changes**

OceanWind was able to completely change the company and change its business model; from being project developers to becoming a consultant agency. (The new business offering is described in the section below.) *“So instead of develop projects, and using much money and gaining a return in 5 years, we decided to continuously sell our hours; our services to other project developers or others in the offshore industry, and use our expertise to get money in by selling hours.”* *“This was really the only opportunity we saw.”* A short time after the company changed, Ivar got a job offer from a head-hunter, some of the others also decided to quit, and

---

<sup>30</sup> <http://www.newstatesman.com/company-profiles/technology/services/oceanwind-as> retrieved 14.06.2013.

<sup>31</sup> <http://www.scatec.no/no/Topmenu/Om-Scatec/Forretningsstruktur.aspx> retrieved 12.06.2013.

then the company dissolved and became inactive. *“The interest for continuing as consults was low.”* Accordingly, the owners gave it a try, but were not pushing too hard to keep the firm going. *“They had bigger issues in their other companies.”* He stated that they were starting to get customers, but he was not sure if it would have lasted.

Ivar believes creativity, thinking solution oriented and changing the business model to be key elements for surviving a recession. If the company had lasted, Ivar think they would have continued as a consultant agency, building references, but he does not exclude changing the business model again, and going back to the main idea as product developers.

#### **4. Offer non- or counter-cycle products and (more) service(s)**

The company altered its business model to include much more service, acting almost entirely as a consultant agency: “The company offers offshore site appraisal and selection, wind resource assessments, site investigations, environmental impact assessments, stakeholder management, consenting, design engineering, offshore logistics and installation method statements, health, safety and environment. The company is also planning to build an offshore wind farm in the southern part of the Norwegian sector of the North Sea with the installed capacity of 1,000 MW. An offshore wind farm consisting of 200 turbines, which produce more than 4.5 TWh annually”.<sup>32</sup>

---

<sup>32</sup> <http://www.newstatesman.com/company-profiles/technology/services/oceanwind-as> retrieved 15.05.2013.

## 5. Taking advantage of others (firms, areas, etc) that are affected harder by the recession

Ivar considered taking advantage of others places as an opportunity; *"It might have been an opportunity if we had gone on for a while longer, because there were others with similar business model in other countries."* Accordingly, OceanWind strategy were to enter other countries; *"The market is too small in Norway."* In the long run Ivar believed there to have been good opportunities in the UK; *"In the longer run, it could have been an opportunity to buy into projects where others were selling themselves out at an early stage and often at low cost because they were in financial trouble."* OceanWind were not able to take advantage of this however; *"When it came to our own business model, we had to change it rather quickly, because we did not have the financial strength to act in the way that we started. So we did not take advantage of it."* Ivar believes the remaining companies after the crisis will *"launch like rockets"*. *"It is said that if one are able to find a way to survive the recession, and you have the financial strength, after the dust have settled, and the market takes a turn for the better, you have the opportunity to pick up the remaining pieces."*

When asked if they were able to take advantage of any weaken competitors, Ivar said that they never got so far. They tried fining investors in the Norwegian environment; power companies and other investors. He believed taking advantage of others not were a relevant issue at their stage. *"We did not even consider it. We focused on developing our own projects, become well positioned for our own projects and get money into the company."* When asked if they were able to take advantage of cheaper resources, he pointed out that the time horizon was quite short and that they had little experience.

### 4.1.3 WindSea AS

#### 1. Perception

Henning saw the recession as something positive as it had removed the unserious actors; *“In 2007-2008 it seemed to be too easy to find capital; one was not able to distinguish between the firms with the good, realistic ideas and opportunities, and the firms with the not so good ones.”* He highlight the fact that in 2007-2008 everyone seemed to get financing, and that now one has to prove oneself much more, both in terms of technology and market potential. *“All the firms were seen as equally good. This is not the case anymore.” “After the crisis and the major financial banks went bankrupt or started to struggle severely, investors became much more careful selecting project to invest in. That was the positive.”* Henning believed the company to be strong both in terms of engineering and other knowledge capabilities, in addition to having good insights into the market. He therefore believes WindSea to hold a rather unique position; *“Not many start-ups can say the same”*. He also pointed out that the will to invest in *“green energy”* is much higher during the good period, and that many of the other firms with fluffy ideas are long gone now.

#### 2. Merger, create a partnership or cooperating with competitors, customers, suppliers or others

According to Henning, one needs approximately NOK 300-400 million to develop a full-scale prototype. This money is hard to find; *“In Norway there are very few groups to approach. You need a lot of money, it is not enough with say 50, 60 or 70 million or even a hundred, you need up to 300-400 million. And there are very few with that kind of strength in Norway. That was our problem.” “It has been extremely hard to find any financial or industrial partners, particularly financial.”* WindSea was able gain support from Innovation Norway on the condition that they

were able to come up with financing for the remaining cost, but the firm was not able to do so. WindSea was owned by three companies, today only two remain. Accordingly, the market is at a standstill; *“FORCE and NLI is not willing to invest much more without seeing some more movement in the market”* and Statkraft left the company in favour of for a collaboration with Statoil on Round 3 in the UK.

Henning do not believe a collaboration to necessary improve the situation in recession. He talks from experience from NLI and a company called Straum and state: *“If you have two immature technologies and companies, and combine them, it is not like  $2+2=5$ ,  $2+2$  becomes 3 when one combines two immature technologies. It does not work.” “If you take 3 immature companies, and combine them, the weaknesses only become easier to see.” “If it is strong partners, it might become easier. I am sure that if Statkraft had remained, that it would have been easier to get additional players to the team.”*

### **3. Using its smaller size and flexibility to adapt and realign to the changes**

When asked about their products, Henning told me they had two; *“The first is the floater construction with the three windmills, but we recognized that there still would be a long time for the marked to mature. And we saw that there were going to be considerable development, or we assumed, in more shallow water down to 45 meters, so we developed another technology; a jacket for bottom-mounting. So we have both one for bottom-mounted, because the way to market was shorter, and one floater where the way to market was somewhat longer.”*

As WindSea is hiring from the owner’s capacity when needed, and do not have any employees of their own, the firm is never stuck with excess capacity. *“The firm’s intention was to get its own*

*employees, but as there was so much uncertainty in the market, we decided not to employ ourselves. If you employ, you are stuck with fixed cost instead of variable, so we choose to hire in as needed. Besides, for constructing a platform you need so many different types of skills, so even if we employed 10-12 it would not be enough, we still would have to rent in others.”* Since they hired in from the owners, WindSea is accordingly also able to turn the company completely around in a swift and adjust activity. *“We could just send the resources back to the owners the day we would not have the need for, wanted or could do anything more in WindSea’s auspices.”*

While he deemed the firm as very flexible, the products were not. The company tried to collect funding for a prototype in full-scale, but as the money was impossible to find, the company tried down-scaling it to 1:8, but still struggled to find the needed financing. Henning believed it was a mistake trying to first develop it in full scale; *“You only get one time to make a first impression. The opportunity was in a way used up when we came back around a second time.”* Accordingly, the reason for first going for the full-scale was that it would have value in itself after the test period, while the down-scaled would mostly have value as scrap.

Henning highlights that firms should be able to downscale the firm’s cost fast in times of recession, and have a network, partners, where one can get resources fast if an opportunity emerge. *“That is important, so one is able to grab it, or get rid of the costs if the opportunity does not materialize. Or quickly can get onboard if a wave of growth were to come.”*

#### **4. Offer non- or counter-cycle products and (more) service(s)**

According to Henning, introduction of services was never really considered; *“the owners are offering services, so WindSea’s focus has all along been to develop and deliver products”*. He believes that if WindSea had its own employees, the firm could have rented out these resources

to get by. Instead as one can see above, the company used its flexibility to introduce a product that was likely to be in a more mature market; the jacket.

Henning believes the market would become more sceptical if one offers too many different kinds of products. *“If you go round stating that you are the best when it comes to floating wind, best within bottom-mounted construction, saying we are the best within tidal power, ocean wind power, we are best in wave power, no one will believe you.”* He believes that one should stay true to ones capabilities and focus on what one knows best. He is not sure they made the right choice going into the bottom-mounted field; *“One should be extremely focused, keep the goal in mind, and be true to the technology if one wishes to become the best.”*

#### **5. Taking advantage of others (firms, areas, etc) that are affected harder by the recession**

Henning believed WindSea to have few competitors. One of them is the Hywind project by Statoil, and according to Henning, it does not seem to be affected much by the recession. Henning also points out that the oil and gas industry still hire as many as possible. Accordingly, the resources WindSea would need to develop the offshore floating technology, competes with demand for resources in the oil and gas offshore industry, and this has kept the prices stable.

WindSea has recognized some opportunities in Denmark. *“Denmark is quite affected. We have recognized that resources over there have become somewhat cheaper, but not in Norway”.*

WindSea used Denmark as location for testing; in wind tunnels and pool. WindSea also used a Danish agency for calculation on their products.

WindSea were in contact with China and the US. *“We received considerable response, but it quenched. We were not able to point to any interest from the Norwegian government with any form of funding, and the Norwegian industry were not very interested, so then it was hard sell to someone in China; they would ask “why are not anyone in Norway interested?” and thus become very skeptical.”* When asked about Japan, Henning said that it was too early. He also pointed out that Japan is a closed and conservative country, with great technology capabilities on its own, while China still have a way to go. According to Henning, in the US, the lack of financial support from the Norwegian government was the main reason why they were not able to become part of the development programs there.

#### **4.1.4 Blaaster Wind Technologies AS**

##### **1. Perception**

Camilla believes that since it has been so hard to find capital, the firm had to become much more creative to survive. *“I believe we have turned many rocks to find good opportunities, as things are tough in the industry.”* Blaaster was looking for financing during 2008 and 2009, but were not able to find any. Camilla believed the situation to again become more unstable from 2010. She states that *“the interest for investing in renewable energy in Norway has become very low. The focus is completely on oil and gas; we are certainly not highly prioritized by the venture funds. This has made us more or less involuntary complete owners of Blaaster.”*

Camilla believes lack of capital to be one of the main problems of the new small entrepreneurial firms in recession. *“It also makes investors more skeptical, i.e. our customers, this leads them to do a much more thorough risk analysis, and it is clear, investing in such a small company like ours is perceived as risky”.* She point out two elements that can reduce this risk; *“building more turbines so we have that to show to, and more capital in the company, so one becomes more*



*economically solid.*” She points out that the company has been very busy regarding the development of the prototype, and that they will start looking towards the financial market again soon.

## **2. Merger, create a partnership or cooperating with competitors, customers, suppliers or others**

Accordingly, till now Blaaster have been standing quite alone. The company were looking for investors in 2008, but were not able to find any. *“We were unfortunate with our timing, the financial crisis hit. They [Torolf and Ove] approached about 20 venture funds in Norway, but did not obtained any positive response. The market was dead. They were about to give up, but in the spring 2010 an opportunity arose, they received a test site in Valsneset in Bjong. So then they at least had a test site, but still no investors.”* The firm was not able to find any investors or partners, but was able to get 50% financing from Enova. The last 50% were hard to come up with. *“We got some help from Innovation Norway, for the rest we had to take up a loan in a bank”.* Camilla point out that the entrepreneurs behind the firm have long experience, a strong name and reputation in the industry which probably had great impact for the firm getting the loan. *“Not to mention the support system. This helped in gaining support from Enova and Innovation Norway.”* Camilla also highlights the firm’s strong network; *“The people around us believed in us”.* She also point out the importance of local patriotism.

Camilla said they have discussed getting partners several times, but not found the timing to be right and that they would start looking for new partners again now; *“I think we quickly will look outside the country. We know there to be opportunities in Germany, we know there will be major development in the wind industry there.”* *“Whether it is new owners, partners, or collaboration*

*with the competition; that is something we have to evaluate further.”* She believes that the firm must make alliances to become a global firm, and point out that, important suppliers may be chosen as partners. *“If we get a strong industrial actor behind us, with a good name and reputation, and who have the capital strength, I believe that would make customers trust us more and invest. I also believe we would receive the same affect if were to gain a strong owner.”*

She sees an opportunity to keep the company alive during the recession. Accordingly, if they are not able to find partners or customers, they can start up as an independent power supplier; *“It is something that we have been very aware of, had one gained licenses and access to loan from banks for instance, we could have created activity in the company, production and so on, owned a little park, and in that way received income along the way.”* The product is with the prototype, accordingly, competing with the established ones. Camilla state that their problem is that licenses are hard to get, partly due to the low capacity on the grid in Norway. She states that if it had not been for the trouble getting these licenses, they probably would have built a small park already.

### **3. Using its smaller size and flexibility to adapt and realign to the changes**

Camilla believes the company to have a great flexibility and strength in its small size; *“our ability to change is relatively large; we are still not so many, and we are able to use the workforce to many different types of tasks”*. Camilla believed the firm’s small size, not having too much infrastructure yet, have made them able to keep the wheels turning, while larger firms struggle more. She adds; *“Seeing other struggle may have helped us find opportunities.”*

Blaaster's wind turbine is said to be very adjustable, *"the prototype is a large wind turbine developed for Norwegian conditions, wind class 1. With small and easy alterations, it can be adjusted to function well in Sweden, the continent, Germany and so on."* *"Our turbine is also very well suited for use offshore; it can be used almost direct. Only the bottom solution has to be altered."*

#### **4. Offer non- or counter-cycle products and (more) service(s)**

Accordingly, all the employees have engineering backgrounds. When asked if they had considered renting out their expertise, Camilla said they still had so much to do, that it had not come to that, but it could be a possibility. Blaaster however, sees an opportunity in putting its service and maintenance cost lower than the competitors. Blaaster have just finished their prototype. Accordingly, *"the turbine is built to be very service friendly; not require a lot of service and maintenance. We offer service, but it is not our main focus."* *"We went for a turbine that would not require much attention afterwards, since we know many of the power companies today are dissatisfied with the suppliers on the market now, i.e. the big established firms, because they offer very expensive service and maintenance contract."*

Camilla believed the industry was charging so much on their service and maintenance contracts to cope with the downturn; *"since the contractors also are affected, the turbine providers set the initial price low to get the contract. But when the park is built and the power is flowing, revenues from power sales starts, and then they are able to pay for the service and maintenance. So then the turbine providers turn up the price to be able to get back some of the lost earnings from setting the initial price so low."*

Camilla believes that their small size and expertise can make it possible to get through by offering services, but that the company then has to look abroad. Camilla believes it is towards Asia one must look to find opportunities, and adds *“we believe the European market to remain difficult”*.

Camilla state that they are trying to think differently from the rest, they want to prioritize building as qualified stab as possible, specialize, become a *“centre of excellence”* to increase the firms chance of remaining Norwegian. *“We do not want the company do disappear; move abroad, like many others.”* The entrepreneurs experienced that with the sale of their previous company, when it was sold to America.

##### **5. Taking advantage of others (firms, areas, etc) that are affected harder by the recession**

*“One man's death, the other's bread. [A Norwegian saying] There is something to it. There will always emerge new opportunities as someone struggle.”* Camilla point out some of benefits with the recession; *“You may get rid of some of the competition, it may also become easier to stand out as the other go under.”*

When asked if they had experienced cheaper or more available resources, Camilla said that when they had been hiring in 2011, they had an overwhelming amount of applications; *“The majority were from abroad. Many from Spain, a lot from Portugal, some form France. So yes, for us it has been real noticeable.”* And they were accordingly highly educated; *“...with masters degrees and over.”* She points out that this was before the big oil boom; *“we could pick from the top of the litter”*. Accordingly, in 2012 it became a bit harder again.

Camilla believed the prices on material to have remained stable; *“Blaaster uses a lot of steel, but as there is a high demand in Asia, the prices has been quite stable”*. She also point out that the Euro has been low, and that it has been a benefit for the company, as they do a lot of buying from the Euro zone.

Blaaster sees opportunities in its neighboring country, Sweden. She believes Sweden to be further along than Norway, *“they already have a grid, and have started major development”*.

Camilla points out that prior experience and knowledge have made them able to create a product with a quarter of the money, and a 1/10 of the resources as seen with similar companies in other countries. She believe their experience and knowledge to be essential for the firm success; *“They knew exactly what to do, what not to do, good experience and have eliminated wrong tracks early on and they have known what to do instead.”* Camilla also highlights local patriotism; *“We would not have been able to achieve the same abroad”*.

She do not believe that Blaaster have been able to take advantage of the opportunities they have seen; *“Not yet. Mainly because we have not been able to get the licenses, in addition to problems finding financing.”*

## **4.3 Case-by-case analysis**

### **4.3.1 WindFlip AS**

#### **1. Perception**

A crisis can be perceived as a threat or as an opportunity according to Penrose (2000). Accordingly, firms that see it as an opportunity invest, and the firms that see it as a threat, conserve resources. WindFlip did not conserve resources; they produced and tested a prototype. WindFlip *perceived* some opportunities in recession. The firm perceived opportunities related to more public funding and a higher focus on start-ups due to the recession. However, as the firm had limited resources, and the market was very immature, the firm perceived less opportunities as the market was delayed and customer demand dropped.

## **2. Merger, create a partnership or cooperating with competitors, customers, suppliers or others**

WindFlip believed partners to be essential for the company, not only in times of recession but always. The firm however, was not able to create any partnerships. Ane said the problem was that it was too far into the future, that "*nobody needed to take a stand to it now*". As described by Pearce II and Michael (2006), this is typical for recessions; decisions that can be deferred or delayed usually are.

## **3. Using its smaller size and flexibility to adapt and realign to the changes**

WindFlip altered their business model to focus on consultant services. Ane said they could have continued, but that this was not something they wanted to do. The firm *recognized* and took action; *they exploited the opportunity*, but did not want to continue due to personal preferences.

## **4. Offer non- or counter-cycle products and (more) service(s)**

The company did not see any additional opportunities, besides offering services.

## **5. Taking advantage of others (firms, areas, etc) that are affected harder by the recession**

The firm did not see any opportunity to take advantage of others countries, firms or cheaper resources. As the company was in a new and immature industry, this is not very strange.

According to Srinivasan et al. (2005) the greater the perceived severity of the recession, the fewer the choices managers have in responding to the recession, and therefore, are less likely to treat the recession as an opportunity.

### **4.3.2 OceanWind AS**

#### **1. Perception**

OceanWind did not perceive many opportunities in recession with their first business model as project developers. Ivar pointed out *limited experience* and the firm's *newness*. He does however *recognize* an opportunity connected to starting a firm in recession; experiencing the following upturn.

#### **2. Merger, create a partnership or cooperating with competitors, customers, suppliers or others**

OceanWind *recognized* opportunities regarding alliances and partnership, and were able to make a strong alliance. Still, the firm did not endure. This illustrates that it is not necessary enough to gain strong partners to survive a recession. Even strong actors can start to struggle during a severe downturn.

### **3. Using its smaller size and flexibility to adapt and realign to the changes**

OceanWind *recognized* opportunities regarding its *flexibility*, and adapted to the decreased demand, by changing the firm's business model. The firm recognized the benefit of not being a firm with very volatile earnings; only expenses, then getting the income all at once. Firms with volatile earnings are said to be particularly affected by recession.<sup>33</sup> Altering the business model to get income continually, by selling labor hours, can be seen as a good choice to help the firm survive, according to theory. However, firms whose value largely derives from intangible assets are also at higher risk of financial distress, since they have little that can be sold off to repay debt.<sup>34</sup>

### **4. Offer non- or counter-cycle products and (more) service(s)**

Ivar said that changing the firm's business model and becoming a consulting agency; offering services, was the only opportunity they saw.

### **5. Taking advantage of others (firms, areas, etc) that are affected harder by the recession**

---

<sup>33</sup> <http://www.investopedia.com/walkthrough/corporate-finance/5/capital-structure/pie-structure-financing.aspx#ixzz2CswHCaaW> retrieved 02.07.2013.

<sup>34</sup> <http://www.investopedia.com/walkthrough/corporate-finance/5/capital-structure/pie-structure-financing.aspx#ixzz2CswHCaaW> retrieved 02.07.2013.



OceanWind *recognized* opportunities regarding *acquiring* other projects sold at low prices, but this was not an opportunity the firm could have *exploited*, as it had very limited financial resources. Ivar *perceived* it to be an opportunity for the long run.

### **4.3.3 WindSea AS**

#### **1. Perception**

According to Tang et al. (2012) new opportunities may emerge as a result of prior experience, personal dispositions, from gaining specific information, being a frustrated user or changes in the broader environment. Henning believed the company to be strong both in terms of engineering and other knowledge capabilities, in addition to having good insights into the market. He recognized that WindSea holds a rather unique position. In this case, the firm has the *experience*, and is experiencing the *change in broader demand*. Their experience is likely to have great impact of the firm, *recognizing* opportunities regarding something that is usually seen as something negative; it becoming harder to get financing. Their knowledge and experience can be a great *source of opportunities*. The nature of the knowledge is likely to influence the volume and type of opportunities available for discovery and exploitation (Eckhardt and Shane, 2003).

#### **2. Merger, create a partnership or cooperating with competitors, customers, suppliers or others**

WindSea *recognized* opportunities related to strong financial or industrial partners. Henning has also knowledge and experience within this field. He points out that collaborating with others not necessary improve the situation. Recognizing *that a relationship does not exist* is also an opportunity according to Drucker (1985). Henning talks from experience from NLI and a

company called Straum and state: *“If you have two immature technologies and companies, and combine them, it is not like  $2+2=5$ ,  $2+2$  becomes 3 when one combines two immature technologies. It does not work.”*

### **3. Using its smaller size and flexibility to adapt and realign to the changes**

WindSea *recognized* that it did not need to have so high fixed costs; only hiring in when needed. *Exploiting* this opportunity has made the firm very flexible, and likely to cope better with the uncertain environment.

### **4. Offer non- or counter-cycle products and (more) service(s)**

WindSea *recognized* the opportunity to introduce a less immature product, a jacket for bottom-mounted turbines. It did not perceive introduction of service as an opportunity the firm wanted to *exploit*. Henning also *recognized not having too many* products. He believes the market would become more sceptical if one offers too many different kinds of products.

### **5. Taking advantage of others (firms, areas, etc) that are affected harder by the recession**

The firm *recognized* using services in *other countries hit harder by recession*; doing testing in Denmark. Japan is one of the world's leaders within technology, choosing to go to China instead can be seen as an opportunity. However, they were not able to exploit this opportunity, or in the US, due to lacking financial support from the Norwegian government.

#### 4.3.4 Blaaster Wind Technologies AS

##### 1. Perception

Blaaster does not see many opportunity *due to the recession*, but they have been able to find some by using their *experience, knowledge and being creative*.

##### 2. Merger, create a partnership or cooperating with competitors, customers, suppliers or others

Blaaster *recognize* an opportunity in being completely independent; turning its company into a power company if they are not able to find customers or partners. However, this is not something they have been able to *exploit*.

Blaaster has been able to get loan from a bank, this has *created opportunities*, making them able to develop the prototype in full-scale. Camilla believes the firm gained this opportunity due to their strong *network, reputation and experience*, as the entrepreneurs have developed and sold a company previously. She also believes the company has gained this opportunity, due to *local patriotism*.

Camilla *recognized* strong suppliers to be a *source of opportunities*. She *perceived* these to be located abroad, and that *alliances* are necessary to become a global firm.

##### 3. Using its smaller size and flexibility to adapt and realign to the changes

Camilla *recognized* the firm's small size as an opportunity; being more flexible. Blaaster saw the turbine as flexible, making it possible to use in many different locations.

#### **4. Offer non- or counter-cycle products and (more) service(s)**

Blaaster *recognized* an opportunity in putting its service and maintenance cost lower than the competitors. They had not considered focus on service an opportunity they wanted to *exploit*. Camilla *recognized* their service to be an opportunity with a greater market potential abroad.

#### **5. Taking advantage of others (firms, areas, etc) that are affected harder by the recession**

Blaaster *recognize* the opportunity to stand out as the competition gets weaker and disappear. They also recognized opportunities to *emerge as someone struggle*. They have *recognized* and *exploited* trading with a good Euro/NOK ratio. They *recognized* and *exploited* the opportunity to pick top candidates, when hiring in times of recession.

### **4.4 Cross case analysis and discussion**

This thesis have used firms in three technical groups; bottom-mounted in shallow water, in deep water and floating. WindSea and WindFlip are both in floating, but WindSea seemed to recognize more than WindFlip. This seems to be due to WindSea having much more knowledge and experience from years in the industry, and WindFlip being new entrepreneurs starting few years before from an incubator at a university.

This thesis considered firms with different level of success, and by success this thesis measured that by their level of activity now, well into the recession. OceanWind was in the

bottom-mounted in deep water, an immature industry and is inactive. WindFlip is inactive, and WindSea active but with limited activity, both focusing on the floating segment, and with an immature market and technology. Blaaster was the only firm in a maturity industry, and was the company that seemed to do the best, having the most activity. Blaaster is in the most mature market, but the firm also have much experience, having entrepreneurs which have developed and sold a company before.

The firms were asked the same main questions; their responses were quite different. How they perceive opportunities seem to be dependent on the different levels of experience. Experience, knowledge and network are likely to have a great impact. Not surprisingly, also seem on the firm's ability to recognize opportunities and what kind of opportunities they decided to exploit.

## **5 Conclusion**

In short, recessions cause lowered sales, decreased margins, and reduced credit, yielding significant shocks to the resources available to the firm, thus threatening its survival (Pearce II and Michael, 2006). This thesis found that entrepreneurial firms perceived many opportunities in times of recession, but *not due* to the recession, as a necessity. The firms were able to see both positive and negative sides. Pre-existing knowledge and experience seem to highly influence how they perceive and acted in regard to the recession, and to which degree they saw it as an opportunity or a threat.

Entrepreneurial firms recognized opportunities regarding partnerships, more public funding schemes, more attention and the opportunity to stand out. Opportunities were also recognized for how the firm standing alone; focusing on its product development, and delivering the best. Opportunities were recognized regarding their small size, making them flexible and able to adjust their business model and product offering; introducing (more) service, more mature products or low cost products/services. The opportunities to pick up the pieces, and acquire companies at low prices, during a recession were recognized, but not something the entrepreneurial firms were able to do. The firms recognized opportunities regarding limiting fixed costs, taking advantage of local patriotism and being able to hire top resources.

When it comes to how they act upon opportunities, this thesis found that all the entrepreneurial firms acted on opportunities regarding establishment of partnerships and collaboration. However, actually getting and holding this partnership were tough in times of recession. Entrepreneurial firms also highlight adaption and the firm's flexibility as important for the firm's survival. As the firm struggled to get customers and investors, the firms altered their product offerings or their business model. Changing their business model however, does not imply success, and the interest for continuing with a new business model seemed to lack with many of the firm's employees.

## **6 Implications and further research**

### **6.1 Implications for entrepreneurial firms**

To be able to follow up on the opportunities one may find, financing is needed. Partners and investors are hard to find and hard to hold in times of recession. As recessions lead to deferred

and delayed investments, be aware that things in general take much longer time. One should expect and prepare for investor doing more due diligence and demanding more, as risk and uncertainty are higher in these downturns. If the firm is having trouble selling products, selling solutions or services can help keep the company afloat till the market turns around. Avoiding too many fixed cost can make the firm more flexible, and able to adjust to the changes more easily.

The firm should keep in mind where it has its greatest comparative advantage. Introducing more or other products and services can lead to lost focus on one's main product and dispersion of limited resources into nothing. Going too strong into other countries, where the recession is not so severe, may lead to less support from the home country's support systems.

In order to detect opportunities and threats Pearce II and Michael (1997, 2006) suggest that the entrepreneurial firm must engage in constant scanning for information about the macroeconomic environment, as well as industry and competitive conditions in a cost-effective manner. Making a list over possible opportunities to exploit can help the firm become more aware of its actual opportunities. It can also be useful in prioritizing which ones to pursue, when one cannot afford to do them all.

## 6.2 Implications for policy makers

Things are happening in the offshore wind industry around the world. From Massachusetts in the US, to Portugal and Japan. Statoil have had great results from the Hywind project, but the industry in Norway is at a standstill. The promising words of Åslaug Haga<sup>35</sup>, Terje Riis-Johansen and Trond Giske regarding the offshore wind industry becoming Norway's next industry and energy adventure (Hansen and Steen, 2011), have resolved into nothing. As one of the leading countries within the offshore industry; with much experience and skilled resources, Norway has great potential. Norway also has great financial strength. Words need to be turned into action. As put by Henning Arnøy; *"academic research is good, but it does not create an industry. It takes real investments to create jobs and an industry"*. Norway has to take advantage of the great opportunities it possesses. One should not be blinded by many opportunities within the oil and gas industry; there are many other important opportunities too. The country has hydro power, but one should recognize that others are not so lucky. Many countries have real needs for power and do not have clean power sources. Norway can develop and own the technology, but sell it elsewhere. There is a major market globally, and the market positions are not taken yet. With some help, the entrepreneurial firms can create many new jobs, take risk, and also help turn around times of recession. Norway's offshore lead is not going to last, other countries will soon surpass, and the opportunity will be lost if action is not taken soon.

---

<sup>35</sup> <http://www.tu.no/energi/2007/10/31/svimplende-potensial-for-offshore-vindkraft> retrieved 18.06.2013.



### **6.3 Future research**

There is still much to do within the field of opportunity research, especially on the empirical side. This thesis has been explorative; identifying what kind of opportunities and actions entrepreneurial firms see and acts upon during times of recession. The opportunities should be further investigated; finding cause and effect in explanatory case studies, and deeming their impact and value with quantitative approaches. Different dependencies should be identified and analyzed. Surveys, with a large group of different entrepreneurial firms, can give more generalizing results. The opportunities should also be investigated with a longitude perspective, to see how they evolve over time.

Strong partners can be essential for surviving a recession. How entrepreneurial firms can find and retain these partners or investors during times of recession is an interesting question, which answer could help many firms to survive.

## References

- ALVAREZ, S. A. & BUSENITZ, L. W. 2001. The entrepreneurship of resource-based theory. *Journal of Management*, 27, 755-775.
- ARDICHVILI, A., CARDOZO, R. & RAY, S. 2003. A theory of entrepreneurial opportunity identification and development. *Journal of Business Venturing*, 18, 105-123.
- ASSOCIATION, E. W. E. 2012. The European offshore wind industry key 2011 trends and statistics.
- BROMILEY, P., NAVARRO, P. & SOTTILE, P. 2008. Strategic business cycle management and organizational performance: a great unexplored research stream. *Strategic Organization*, 6, 207-219.
- BURT, R. S. 2000. The network entrepreneur. *Entrepreneurship: The social science view*, 281-307.
- CASE, K. E. & FAIR, R. C. 2007. *Principles of microeconomics*, Pearson Education.
- CHOI, Y. R. & SHEPHERD, D. A. 2004. Entrepreneurs' Decisions to Exploit Opportunities. *Journal of Management*, 30, 377-395.
- CLAESSENS, S., KOSE, M. A. & TERRONES, M. E. 2009. What happens during recessions, crunches and busts? *Economic Policy*, 24, 653-700.
- COHEN, B. & WINN, M. I. 2007. Market imperfections, opportunity and sustainable entrepreneurship. *Journal of Business Venturing*, 22, 29-49.
- DAHLQVIST, J. & WIKLUND, J. 2012. Measuring the market newness of new ventures. *Journal of Business Venturing*, 27, 185-196.
- DRUCKER, P. F. 1985. The discipline of innovation. *Harvard business review*, 63, 67.
- ECKHARDT, J. T. & SHANE, S. A. 2003. Opportunities and entrepreneurship. *Journal of management*, 29, 333-349.

- EISENHARDT, K. M. 1989. Building theories from case study research. *Academy of management review*, 532-550.
- FANELLI, C. & EVANS, B. 2013. From Great Recession to Great Deception: Reimagining the Roots of the Crisis. *Alternate Routes: A Journal of Critical Social Research*, 24.
- HANSEN, G. H. & STEEN, M. 2011. VINDKRAFT TIL HAVS - Teknologi- og industriutvikling fra et norsk bedriftsperspektiv. 1/2011 ed. CenSES CenSES & NTNU.
- IRELAND, R. D., HITT, M. A. & SIRMON, D. G. 2003. A model of strategic entrepreneurship: The construct and its dimensions. *Journal of management*, 29, 963-989.
- LANDSTRÖM, H. 1999. The roots of entrepreneurship research. *New England Journal of Entrepreneurship*, 2, 9-20.
- LILIE, G. L. & SRINIVASAN, R. 2010. Marketing spending strategy in recessions. *Australasian Marketing Journal (AMJ)*, 18, 181-182.
- PAPAOIKONOMOU, E., SEGARRA, P. & LI, X. 2012. Entrepreneurship in the Context of Crisis: Identifying Barriers and Proposing Strategies. *International Advances in Economic Research*, 18, 111-119.
- PARKER, S. C. 2012. Theories of entrepreneurship, innovation and the business cycle. *Journal of Economic Surveys*, 26, 377-394.
- PEARCE II, J. A. & MICHAEL, S. C. 1997. Marketing strategies that make entrepreneurial firms recession-resistant. *Journal of business venturing*, 12, 301-314.
- PEARCE II, J. A. & MICHAEL, S. C. 2006. Strategies to prevent economic recessions from causing business failure. *Business Horizons*, 49, 201-209.
- PENROSE, J. M. 2000. The role of perception in crisis planning. *Public Relations Review*, 26, 155-171.
- SARASVATHY, S. D., DEW, N., VELAMURI, S. R. & VENKATARAMAN, S. 2010. Three views of entrepreneurial opportunity. *Handbook of entrepreneurship research*. Springer.

- SEIDLER, J. 1974. On using informants: A technique for collecting quantitative data and controlling measurement error in organization analysis. *American Sociological Review*, 816-831.
- SHANE, S. 2000. Prior knowledge and the discovery of entrepreneurial opportunities. *Organization science*, 11, 448-469.
- SHANE, S. & VENKATARAMAN, S. 2000. The promise of entrepreneurship as a field of research. *Academy of Management Review*, 25, 217-226.
- SRINIVASAN, R., RANGASWAMY, A. & LILIEN, G. L. 2005. Turning adversity into advantage: Does proactive marketing during a recession pay off? *International Journal of Research in Marketing*, 22, 109-125.
- SØRHEIM, R. 2003. The pre-investment behaviour of business angels: a social capital approach. *Venture Capital*, 5, 337-364.
- TANG, J., KACMAR, K. M. & BUSENITZ, L. 2012. Entrepreneurial alertness in the pursuit of new opportunities. *Journal of Business Venturing*, 27, 77-94.
- VAGHELY, I. P. & JULIEN, P.-A. 2010. Are opportunities recognized or constructed?: An information perspective on entrepreneurial opportunity identification. *Journal of Business Venturing*, 25, 73-86.
- VOLDEN, G. H., BULL-BERG, H., SKJERET, F., FINNE, H. & HOFMANN, M. 2009a. *Vindkraft offshore og industrielle muligheter*, SINTEF Publikasjoner, SINTEF.
- VOLDEN, G. H. B.-B., HEIDI, SKJERET, F. F., HÅKON & HOFMANN, M. 2009b. *Vindkraft offshore og industrielle muligheter*, SINTEF Publikasjoner, SINTEF.
- YIN, R. K. 2008. *Case study research: Design and methods*, SAGE Publications, Incorporated.