

Entrepreneurship at a time of crisis

Lesson to be learned

Thesis by

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Synopsis

The economic collapse of 2008 was devastating for the small nation of Iceland. This report is focused on the effect the collapse had on domestic entrepreneurship. An analyses of how leaders of entrepreneurial firms estimated the complexity and uncertainty of and before the economic collapse is conducted. How, if and when the firms responded to the changing environment is investigated with respect to the firms' development. Interviews with a group of entrepreneurs are conducted for information gathering. The importance of a misfit between the macro level and micro level in a time of crisis is underlined along with the importance of operating globally. Based on the results from the analysis, five operating recommendations are presented. These are aimed at entrepreneurs, managing under uncertain and complex circumstances in a time of economic crisis.

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It was my desired outcome to create something that could be learned from and could encourage entrepreneurs in my home country of Iceland. This journey of writing my thesis has been a great learning experience and would not have been possible without the support of many. To all of whom I send my greatest gratitude.

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Summary

In the year 2008 Iceland faced an economically collapse, when three of the country largest banks went bankrupt. This was devastating for the small nation and the collapse left its print on every sector. Operating a business under these conditions was both complicated and risky. The environment forced managers and other leaders to respond to the circumstances and rethink their strategies. This research focuses on entrepreneurial firms and their management. More specifically how they estimated the situation and how they responded.

Three perspectives are used in the analysis.

The first one is an overall analysis of knowledge intensive entrepreneurship (KIE) firms' destiny. A quantitative data is used to analyze if the firms developed in any way out of the ordinary during the period.

The second one is a macro level analysis. The changes in the environment from before, during and after the economic collapse are analyzed. A qualitative data is collected from five separate interviews. All of the interviewees are entrepreneurs and worked on the field of entrepreneurship during the period.

The third one is a micro level analysis. Four firms participated in a case study research. Their way of estimating and responding to the situation is analyzed in relation to the firms' development. A cross case analysis is used to compare the results and to develop propositions for other entrepreneurial firms to consider.

The results from these analyses reveal that a period of crisis for KIE was actually another period of time than expected. The numbers show that bankruptcy among general enterprises in Iceland started to rise the year after the economical collapse and was highest in the year 2011. For KIE firms however, the highest rate of bankruptcy was in the year 2007, or the year before the economical collapse. During the prelude to the economical collapse the financial sector dominated in Iceland. Consequently, different societal factors like governmental support, access to funding and social support, which are important for entrepreneurial growth, were poor. After the collapse this changed. The government began to set aside capital for various funds. Domestic investors got interested in entrepreneurship and the social moral became more supportive.

It was confusing for KIE firms' leaders to interpret the situation and estimate the uncertainty and complexity of the environment. There is a relationship between the firms' success and the estimation of the environment after the collapse. The firms' who considered the level of uncertainty and complexity to be constant before and after the collapse had more success. The firms that estimated the environment to become more uncertain and complex after the collapse did not prosper in the same degree.

Furthermore, the research provided five recommendations for entrepreneurial firms which are operating in a time of economic crisis.

1. Loans should be in the same currency as the company's income.
2. At a time of crisis, it is important to have a flexible strategy.
3. If the external environment is unstable, an aligned strategy across the firm is important.
4. A change of management during a time of crisis is not recommended.
5. Seeking global markets is recommended in order to secure growth, especially in a time of economic crisis.

The statistics show that the numbers of bankruptcies after the collapse actually dropped amongst KIE firms. This indicates that the operating environment for KIE firms actually improved as a result of the collapse.

1 Introduction

In the North Atlantic Ocean is an island called Iceland. This land is the land of Vikings. It is a place where you can witness the northern lights in the wintertime and the midnight sun at summertime. In between the spectacular nature, amongst elves and trolls, lives a small nation of 320.000 people. Iceland's first documented proof of living dates back to the year 874 A.D, and the country was soon after settled by Norwegians. After being ruled by different Scandinavian countries throughout the years, Iceland became fully independent from Denmark in the year 1944. This was the beginning of an independent economy for Iceland. An economy that has been rather vulnerable and fragile since birth. Even though the economy of Iceland has had its up and downs throughout the years, 2008 was one of the most dramatic year of them all. In October that year, Iceland faced an economic collapse. Three of Iceland's largest banks went bankrupt. They were all privately owned banks and in order to save what could be saved, they were taken over by the government. Those events hit the whole country hard and the consequences are still affecting the economy of Iceland today, 7 years later.

It is said, that the collapse did not leave anyone untouched. Some individuals and businesses are still dealing with the aftermath. The operating environment for enterprises changed, both economically and socially. The Icelandic currency went into a free fall once the banks went bankrupt, and in order to react to this the government set up capital control. This was to control the amount of capital streaming from the country. It was difficult for many industries and first today, in the year 2015, there is a decisive plan about revealing some of the capital restrictions. However with Viking blood in their veins, the nation's stubbornness and willingness to recover, Iceland is finally back on track. This has been a long journey, but there is still some way to go.

As the author of this report is truly passionate about entrepreneurship, the survival of entrepreneurial companies has been a big attraction. One might draw that conclusion that start-up companies, were more vulnerable to the complex and unstable environment created by the collapse. It is well known that start-ups often have a hard time financing themselves, in order to stay alive and to continue their businesses. It is logical to think that the collapse hit them harder than other more stable companies.

The main topic of this report is therefore to analyze *start-up companies which were established before the collapse and find out how they dealt with the uncertainty and complexity of their operating environment and how that did affect their development.*

1.1 Thesis Structure

In next chapter, **chapter 2**, the theoretical foundation of the research will be described. A definition of an entrepreneurship used in this thesis is defined. The theory behind entrepreneurial processes will be outlined to gain a better understanding of the concept. The entrepreneurs' personality will also be looked at to understand how the entrepreneurs can be affecting the process. Furthermore, strategic planning under uncertainty and complexity will be introduced, and how the estimation of those can affect the firms' development.

In **chapter 3** is the research question to be found. The aims and objectives of the research will be outlined in detail along followed by the research scope.

The methodology used in this report and the research design will be described and justified in **chapter 4**. How the research topic will be approached from three different perspectives and the process of the data selection, collection and analysis will be explained.

The first approach is from the societal perspective. Interviews were taken to find out how the society did change from before, during and after the collapse. The interview structure, procedure and findings will be described in **chapter 5**.

The second approach is statistical. A quantitative research was preformed to find out if KIE firms established before the collapse did develop in any way out of the ordinary during that period. The procedure of this and the result are introduced in **chapter 6**

The third approach is from the managerial perspective. A case study was performed in cooperation with four different companies. Their way of managing under the uncertain and complex circumstances around the collapse will be analyzed and discussed. The structure, procedure, case reports and a cross case analysis is to be found in **chapter 7**. In relation to the cross case analysis, there are developed propositions for entrepreneurial firms are encourage to consider.

In **chapter 8**, the results from the three analyses are discussed in relation to the theory. This will be followed by the propositions in **chapter 9**, were the learning from the research is outlined.

At the end of the report a **conclusion** and a **reflection** is to be found.

2 Literature review

In this chapter different theories and definitions, related to the research topic, will be explained. This is to gain a better understanding of the topic and to be able to conclude on the result at the end of the report. The topics of this chapter will be addressed in following order:

- Definition of entrepreneurship
- Entrepreneurial processes
- Entrepreneurs personality
- Uncertainty and complexity management

2.1 Definition of Entrepreneurship

There is no one right way to define entrepreneurship. Although all of the definitions do agree that entrepreneurship is the process of taking an idea and turning it into a profitable business. In the Oxford dictionary it is defined as; *the activity of setting up a business or businesses, taking on the financial risks in the hope of profit*. [Oxford Dictionary (online), 2015]. In the Business dictionary it is defined as; *the capacity and willingness to develop, organize and manage a business venture along with any of its risks in order to make a profit*. [Business Dictionary (online), 2015].

The question is, should all businesses be counted as entrepreneurial businesses? Both entrepreneurial ventures and other small businesses are important for economic growth. The line between the two can be thin and that is why it is important to define entrepreneurship in more detail. Schumpeter described entrepreneurs to be disrupters of equilibrium. They are innovative and try to change the way things are done by introducing new things and new ways of doing things. On the other hand owners of small businesses and others such as shops, restaurants and professional services do run their businesses to make a living. [Allen, 2009 p. 6-7]. The majority of definitions view entrepreneurship as a pursuit of an opportunity. They define entrepreneurship to be a process where individuals, on their own or within an organization, pursue opportunities with or without having the right resources in the situation. [Veen et al., 2004]

This research will focus on a specific type of entrepreneurship called, knowledge intensive entrepreneurship (**KIE**). The Federation of Icelandic Industries defines the KIE as;

A start-up company is defined as a high tech company, which is inspired from a research or development projects, performed by individuals, development groups, universities, research institutes or other kind of a company that has a specialized knowledge, technology or other novelty. It is assumed that a start-up company uses about 10% of the yearly revenue directly in their development and has revenue below 1 billion Icelandic kroner each year.

[Federation of Icelandic Industries (translation), 2015].

In this report this definition will be used to define entrepreneurial firms. The definition does not include the age of the firms and they can therefore be defined as KIE for many years. This should be kept in mind when analyzing the firms because they are on different stages in the start-up process, and therefore with different needs and focus.

2.2 Entrepreneurial processes

In order to understand entrepreneurship it is essential to understand the process and the different components that might be affecting the process. It should be kept in mind that entrepreneurship is not an event. It is a highly dynamic process. In this section the theory behind entrepreneurship and entrepreneurial processes is explained.

The field of entrepreneurship has been studied in greater detail in recent years. Different theories have been developed and models have been constructed to illustrate the entrepreneurial process. Even though the process is illustrated differently between theories, they do all agree on the following points:

1. Without recognizing an opportunity there will be no venture.
2. Starting a venture is a long and messy non linear process.
3. The process is highly dependent on the entrepreneur himself and his surroundings.

Even though the entrepreneurial process is non linear, there can be found similarities between different ventures. Van der Veen and Wakkee summarized the similarities from different theories into a single model. They defined three stages in venture creation; opportunity recognition, opportunity exploitation and value creations, as shown in Figure 2-1. Looking at the whole process, it can be seen that every venture goes from recognizing some kind of a problem which then leads to the initial idea. The idea becomes a concept and is developed into a business opportunity that at the end will create values. [Veen et al., 2004].

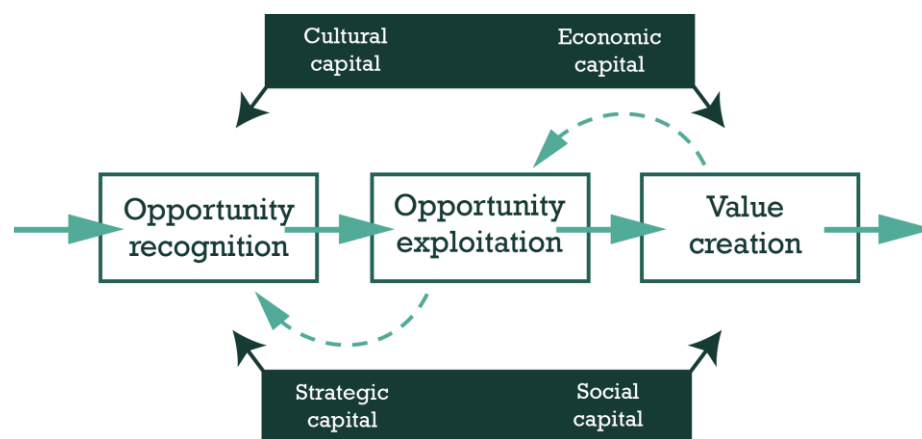


Figure 2-1: Entrepreneurial Process Model

- **Opportunity recognition-** This stage starts with an initial idea. The idea is nurtured and developed into a core concept. This stage is characterized by cognitive activities, information gathering and assessing resources in order to maximize the potential benefits. Timmons did develop a screening model for this stage, which is illustrated in next section.
- **Opportunity exploitation-** On this stage the concept is developed into a more detailed business concept. The focus is on assembling resources, creating a social network and defining customers. Things like price setting and service specifications do also belong to this stage.
- **Value creation-** Entrepreneurial processes tend to be driven by the values created in the first two stages. The payoff is the motive for the entrepreneur to invest his time in the whole

process and the value created for the customers is the stimulation for them to buy the product or the service.

An opportunity based process, such as shown in the model is highly dependent on the entrepreneur himself. He is the driving force behind the whole process. The entrepreneur is affected by his circumstances and different circumstances will therefore lead to different results. Different factor from the society have to be taken into consideration when investigating entrepreneurship. Van der Veen and Wakkee did therefore further develop the core model where different societal factors are shown to be affecting the process, as shown in Figure 2-1. [Groen et al. 2005].

Aard Groen, Ineke Jenniskens and Peter van der Sijde (2004) constructed another model where they described it in more detail how the societal factors can affect the entrepreneurial process. The model is shown in Figure 2-2.

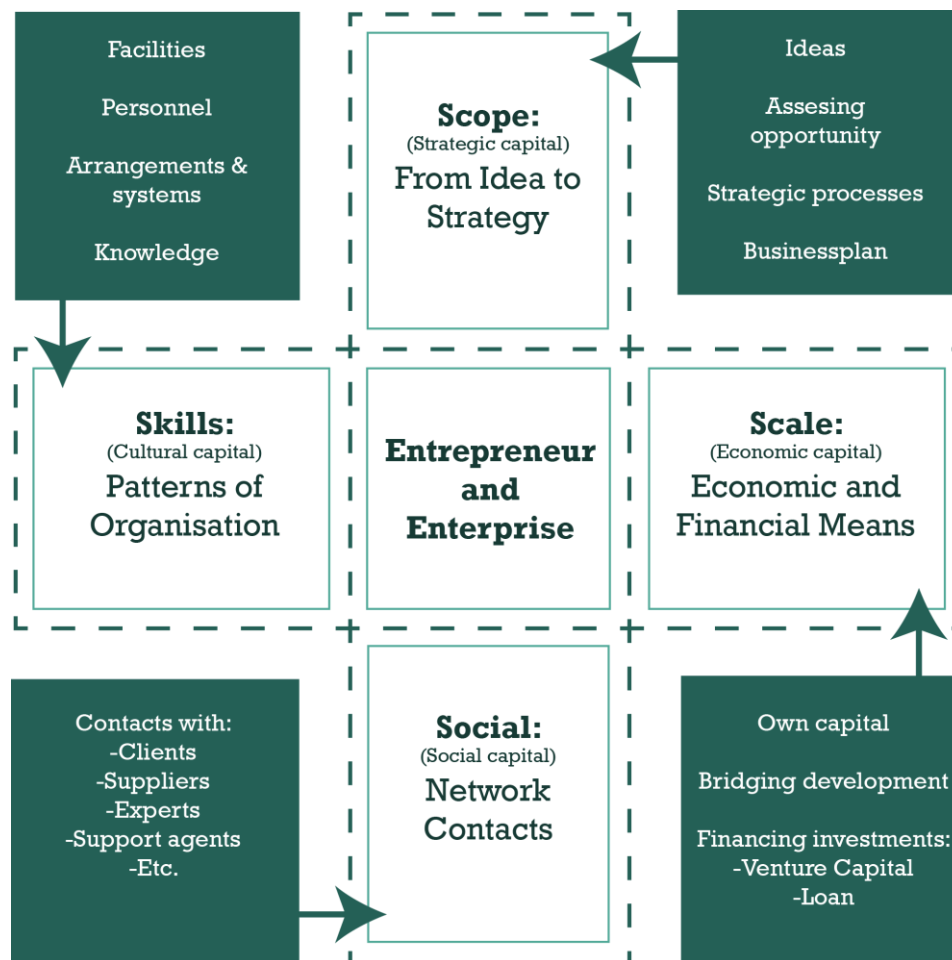


Figure 2-2: Societal Factors on Entrepreneurship

Cultural capital – Skills

In this category, the entrepreneur, or a team of entrepreneurs, play the most vital role. It is important in entrepreneurship to have the right competences. This does not only include technical development, but also managing and marketing. KIE most common mistake, is that their focus is too much on the technology itself and creating a team that can provide the firm more technical knowledge. This often

leads to a good product but no company structure and no knowledge of how to enter the market in order to create profit. [Groen et al. 2005].

Economic capital – Scale

The need for funding is well known among entrepreneurs. This problem can be even bigger when it comes to technology driven entrepreneurs, where the time from idea to market often takes long time and the return of investment is rather unsecured. As a result the entrepreneur uses much of his time to find seeds and venture capital. This in return makes the time to market even longer. Five main reasons are recognized as to why it is hard for KIE to collect funding:

- Unclear return of investment, due to lack of a track record and long time to market.
- The entrepreneurs underestimate the time and energy needed to collect money.
- Banks are not willing to take the risk and do not have any tailor made offerings for them.
- It is hard to show any tangible assets, it is more embodied in the knowledge.
- Business angles and other informal investors are more likely to bridge the gap from proof of principles to prototype.

Starting a KIE is expensive, both setting up facilities and time. The unsecure, and often low return of investment, makes it even harder for them to collect money compared to other start-ups. It is therefore important for the entrepreneur to estimate the time taken from the development itself and the chances of getting the money wanted. Sometimes they might be better off by investing the time in development in order to reach to the market sooner. [Groen et al. 2005].

Strategic capital – Scope

To set a goal for a business and find its position on the market is the essential part of estimating a business opportunity. KIE often have problems in evaluating their ideas, and it is therefore important to make the goals smaller in order to minimize the risk. When evaluating and developing the business idea it is important to have the following in mind:

- Which demand is the business fulfilling?
- Does it add more value to the demand?
- Can we go to the market within a reasonable time?
- How is the competition?
- How hard is it to copy the offerings?
- Can the idea or part of the idea be guarded in any way?

When the idea has been developed, it is time for exploitation in order to create a cash flow. On this stage there will be a more focus on marketing and reaching out to customers.

The biggest obstacle for KIE entrepreneurs is the lack of knowledge to evaluate their own idea and the knowledge to reach out to customers with their product. These problems are more common when there are inexperienced entrepreneurs. [Groen et al. 2005].

Social capital - Social

The entrepreneurs themselves are usually the driving force behind a business, but can at the same time be the firm's biggest obstacle. When talking about social capital and networking it is no exception. The entrepreneurs have the tendency to underestimate the value of creating a strong network and maintaining it. They usually focus on networking within their technology field and

potential large customers. That is bad when it results in neglecting suppliers and smaller customers, which are likely to be a part of the company's development and success. [Groen et al. 2005].

2.2.1 The Timmons model

[The information used in this section are taken from Spinelli et al. 2007.]

To better understand how different factors affect each other a model developed by Jeffery Timmons will be analyzed. The model expects the entrepreneur to be the driving force behind the business and is the one who carries all the load. The entrepreneur has to find balance between three main factors in order to make the firm's development robust. Those factors are; team, opportunity and resources. Those three factors and the right balance between them, play the leading role in the business development. The model is shown in Figure 2-3.

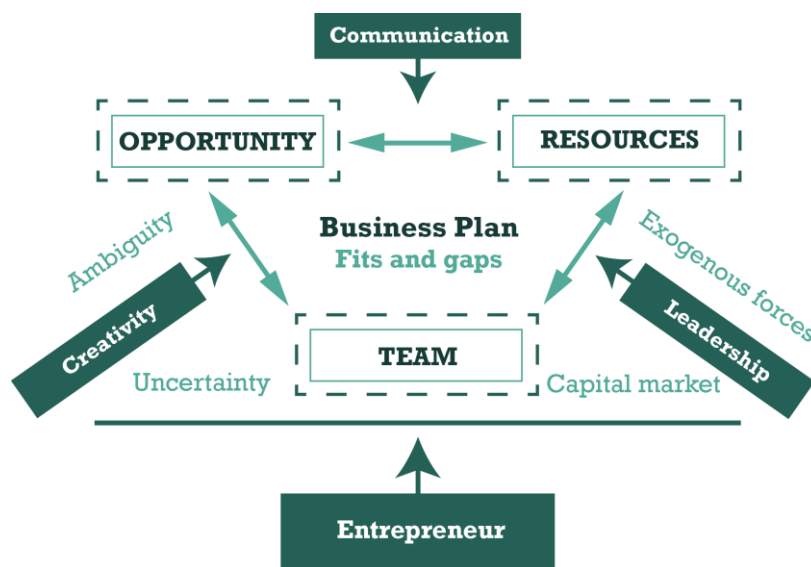


Figure 2-3: Timmons Entrepreneurial Model

Opportunity

This model is opportunity based like the other models. The entrepreneur needs to see the opportunity in his concept to be able to create values of some kind. It is not given that the idea is a good business idea and that is why the entrepreneur needs to seek out the right opportunity to create value for customers and remain attractive too them. Without seeing the opportunity there will be no business.

Team

According to Timmons findings the right team is essential for success. The right team has to be formed based on two factors; creativity and leadership. Creativity is important to be able to offer good products and to make it better at all times. The business does also need a strong leadership to be able to execute its offerings and create values.

Resources

Finding the right resources to work with can be difficult. According to the model this is one of the main factors affecting the development and growth of the business. The size of the team and the opportunity will determined the size of recourses needed. The entrepreneur and the leading team of

the company need to focus on creating the most out of little, where financial capital can be difficult to find and will most often not cover the whole cost.

Business plan

All those factors need to be reflected in the business plan that will unite those elements. The business plan needs to communicate those different aspects of the business and fill in the gaps that uncertainty and ambiguity will create. The business plan also need to take into consideration the opportunities on the capital market and other outside forces that might affect the business.

2.3 The entrepreneur

[The information used in this section is taken from Chell, 2008.]

It is clear that the entrepreneur himself plays a vital role in the business development. That is why it is important to understand the personal trait for the entrepreneur and understand how that could be affecting the decision making process.

2.3.1 Personality traits

To find out who the entrepreneur is has been one of the big questions in the research field of entrepreneurship. The results from those researches agree on that some personal traits are more common to find in entrepreneurs than the rest of the population. There are three traits that are more common than others; the need for achievement, locus of control and risk taking propensity. Even though these three traits are the most known and acknowledged, few other traits have also been recognized. In the following those three traits are described in further detail.

Need for achievement

The need to succeed is highly important for entrepreneurs. Succeeding is especially important to them if they have worked for it themselves. They like to solve different problems, and more the challenge more the happiness it brings to them if they succeed. The motivation for them is to achieve something and to do it better than the next person.

Locus of control

This trait is when the person believes in controlling its own destiny. Those who have high locus of control, do believe that they have a control over their own success. They do not believe that their fate is in the hand of a higher power. This trait is also seen more often among entrepreneurs than others. Entrepreneurs tend to believe that they can control their own situation and success and that they are not dependant of others.

Risk taking propensity

Entrepreneurs seem to be more likely to take risk than others. In this case, risk is defined as the willingness to pursue something when the chance of succeeding is low. Entrepreneurs seem to enjoy the excitement of new challenges. On the other hand, they do not feel like they are taking a risk. They are not gamblers. This is why entrepreneurs are said to take calculated risk. They evaluate different options and different possible outcomes before they act.

2.3.2 Personality and environment

When looking at personality traits, it is interesting to look at how the traits can affect how people react to different situations. Shown in

Figure 2-4 is a model developed by Elizabeth Chell that shows how person and situations shapes entrepreneurial behavior and processes. According to the model, a person processes information coming from the environment, through different situations. How the person sees the situation is depending on his personality. How he evaluates the circumstances and reacts to them is dependent on his or her role in them. The activity and act on the situations is dependent on the person's trait. The output is dependent on the individual style and the result will be the ground for judgment. The output is what creates the persons reputation. In the end there are judges and audience. They evaluate the situation after their own knowledge and judge the person's act based on his or her activity.

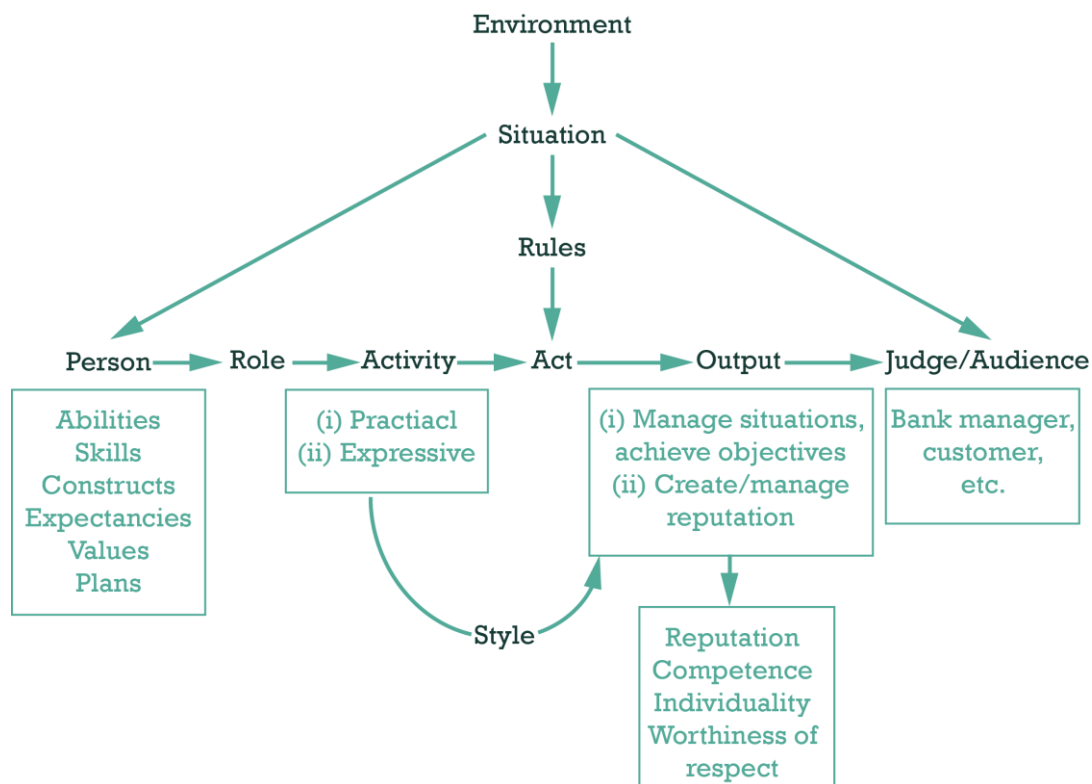


Figure 2-4: Relation between personality and situation

2.4 Uncertainty and complexity

Risk management is becoming a larger part of running a business in today's global business world. Risk is considered to be the relation between uncertainty and complexity. If the level of uncertainty and complexity is high, the risk is high. If the situation is certain and simple, the risk is low. It can be difficult to manage a company when the environment is both uncertain and complex. Shown in Figure 2-5: Risk, combination of uncertainty and complexity is how complexity and uncertainty are related to each other. [Taran, 2013].

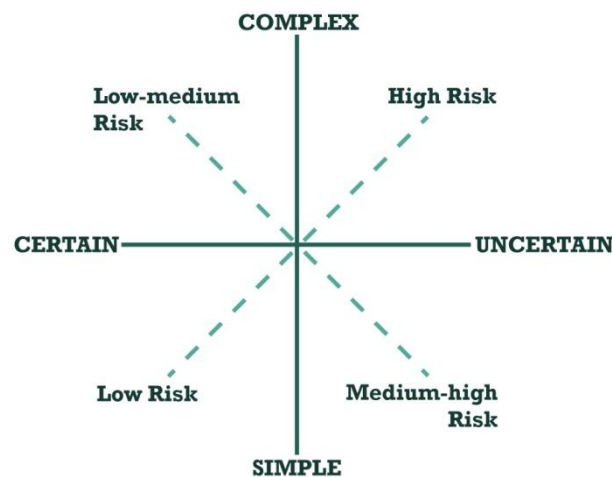


Figure 2-5: Risk, combination of uncertainty and complexity

2.4.1 Uncertainty

Many tools and procedures designed to help managers and other leaders to evaluate risk, assume that we live in systematic world. Given that a systems nature is always seeking its equilibrium when disturbed, executives can only use history to try to predict the future. Many risk evaluation tools may therefore not work in circumstances which have not happened before. When operating under new and unique circumstances the environment is considered to be uncertain. The level of uncertainty can vary and is it important to estimate each situation separately to be able to design appropriate strategy.

According to Courtney, Kirkland and Viguerie, executives tend to either overestimate or underestimate uncertainty. Both ways may have dangerous consequences for the firm. If it is **underestimated** the opportunity that the uncertainty can provide might be missed. That is to say if the situation is more uncertain than anticipated an opportunity can pass by. On the other hand, if the uncertainty is **overestimated**, executives are likely to take the “just do it” approach. Meaning that executives believe that the situation is so uncertain that planning for it is near impossible. An approach that may lead to failure when emerging new products or entering onto new markets. Managers that are risk-averse (low risk appetite) and think they are in a highly unstable and uncertain environment may also be dangerous to the firm, were they tend to do little or nothing. They avoid making critical strategic decision and focus instead on internal cost reduction, quality management or reengineering. Those factors are also important but are not substitute for strategy planning.

To be able to take the right action for the firm it is important to know the level of uncertainty. Even if the executive feels like the environment is highly uncertain there are usually few scenarios he can

predict. The few things he may predict can be extremely powerful and can help in choosing the right action. Uncertainty can be divided into 4 levels like shown in Figure 2-6: Levels of uncertainty. Those indicators can help in strategy planning. [Courtney et al., 1999].

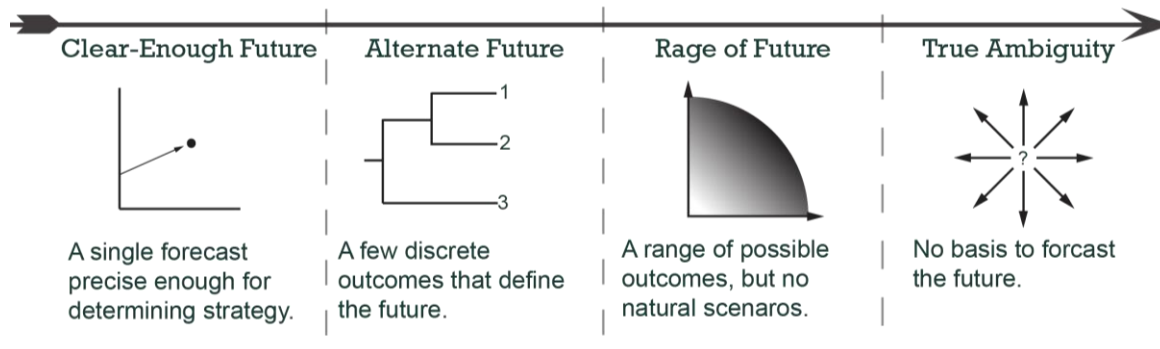


Figure 2-6: Levels of uncertainty

Level 1: Clear-Enough Future

At the first level, managers can predict one thing that is certain enough to determine a strategy. Usually, the environment is not simple as that with only one foreseen act. The plan will therefore be narrow and just focus on one part of the business. Most managers feel highly comfortable in this level, because they can use a standard strategy tool kits, like market research, competitors' analysis, value chain analysis, Porter's 5 forces framework and so on. After using those tools to analyze different aspects of the business, they can make a cash-flow model that is build on the predictions. This is the way that is taught in most business programs, and will make the managers feel secure in what they are doing. [Courtney et al., 1999].

Level 2: Alternate Future

Level 2 is a little bit more complicated than level 1. Here there are few different alternatives that analysis cannot predict. It is possible to foresee different scenarios, but each scenario has different outcome. It is therefore important to predict how each scenario might play out, and thereafter to evaluate the risk in each case. When that is done it is possible to make a strategy plan. It is also important to think things through and try to evaluate how different changes might appear and affect the business. Those changes can be adapted to the strategy plan to make it easier to notice different triggers from the environment. This will make it possible to react to different threats at the right time. [Courtney et al., 1999].

Level 3: A Rage of Futures

Level 3 is not very different from level 2. The focus is on predicting different scenarios. Unlike level 2, level 3 has no clear outcome. The outcome can be predicted to be in a certain range but there is no natural path to follow. Level 3 also pretends to have more scenarios, and it is therefore important to choose where to set the focus. If there are too many scenarios to work with it might hinder the decision making process. The focus should be on developing different scenarios that will lead to small ranges of outcome. This will help the leaders to understand how different action may turn out and make the strategy plan more robust. [Courtney et al., 1999].

Level 4: True Ambiguity

Level 4 is the highest level of uncertainty. Here different variables cross each other and no potential outcome can be predicted. This level is really rare and is hard to deal with. Even though the prediction is more qualitative on this stage there is no need to only go after the “gut feeling”. Manager should be able to identify few favorable and unfavorable indicators that could affect their firm more than others. This could lead to few different strategies that can minimize the risk involved, even though it is not possible to quantify those decisions. [Courtney et al., 1999].

2.4.2 Complexity

Complexity is another important factor when estimating risk. A complex situation might be when several different actions are interfering with each other, resulting in confusion. [Pich , 2002]. The definition of complexity has been a debate throughout time. The term is also known as comprehensibility or analyzability. Complexity is the opposite of simple and does therefore refer to the difficulty of understanding the situation. [Taran, 2011]. It can be challenging to make an enlightened decision under a complex circumstance but there are tools that can help.

Complexity can be categorized into external and internal complexity, like shown in Figure 2-7. The internal complexities are different situations within a firm that are affecting its development. External complexities are complex situations in the environment that are affecting the firm from the outside-in.

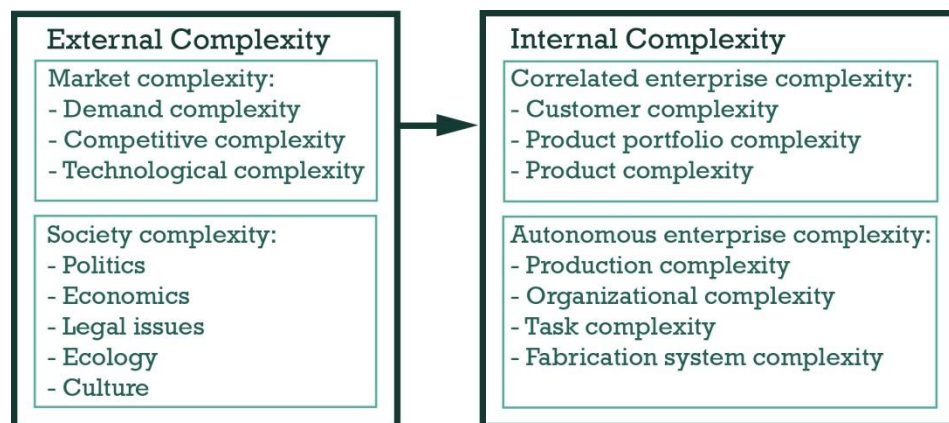


Figure 2-7: Different types of complexity

In this report the focus will be on external complexities. External complexity (or exogenous complexity) is known to have different complexity factors that the firm has to adapt to. The complications of those factors can mark the level of the external complexity. External complexities may be divided into two main categories, market and society. Market complexity focuses on the demand, competitive and technological aspects. Societal complexity focuses on the political, economical, legal, cultural and ecological issues. [Marti, 2007].

Tidd. J and Bessant. J (2013), suggest few different ways to estimate and react to a complex and uncertain situation. These include the following:

Building Alternative Future by exploring potential threats and opportunities. By building up different scenarios, the risk (combination of uncertainty and complexity) can be estimated.

By taking small steps at a time it is possible to **Probe and Learn**. This makes it possible to deal with less complex situation at each time, and take small informed decisions about next step.

Using old **Alternative Measurement and Evaluation Criteria** might be helpful in some cases. By adapting existing measurements to more complex situation can sometimes help with the estimation of potential loss.

2.5 Chapter Summary

The process from an idea to a business is both dynamic and non linear. The entrepreneur himself plays the vital role in the process and he is highly affected by his environment. To make the entrepreneurial process as robust as possible, it is important to be aware of how the environment can be affecting the process. It is also important to understand how different factors are interfering with each other and to create a balance between those factors. It is a tendency among technology driven entrepreneurs to have a high focus on the technology itself. This often results in a good product that is has little or no opportunity on the market. It should be kept in mind that in this report the definition of KIE does not include the company age. When looking at a company's position in the process and on its survival changes, the age of the firm can be an affecting factor. It is more likely that an older firm has launched a product on a market and has created some values for its customers and itself. A company that already has a business concept with a product on the market is more likely to succeed than a newly formed company still on the opportunity recognition stage.

Some personality traits are more often seen amongst entrepreneurs than in the rest of the population. Those traits are considered to be more suitable for entrepreneurship and help the entrepreneur to live in the chaotic environment, which starting a business is. Those same traits will affect how the entrepreneur reacts to different situations in the entrepreneurial process. For an example entrepreneurs are more willing to take risk than others, and the need for achievement and success will give them stronger will to pursue with project that others would give up on. Entrepreneurs tend to thrive better than others in an uncertain and chaotic environment.

Estimating risk and managing it is big part of entrepreneurship. Even though entrepreneurs seem to be more willing to take a risk, they do not consider the situation to be risky. Risk is defined as the balance between the unknown and complexities. Even though uncertainty and complexity are two separated terms, they do relate in many ways. When assuming risk it is possible to divide the uncertainty into levels. It is depending on the level of uncertainty how a firm should react to uncertain environment. When estimating the level of uncertainty it is also important to find out the level of complexity. Complexity can both be internal and external. External are the things in the environment that are affecting the firm. It is important to estimate how much is unknown and how complex things are, and make strategies dependant on that. By attempting to predict the future and setting up different scenarios the firm might be able to react quicker to different threats. This will increase the company's chance for survival. When entrepreneurs are estimating the environment, they tend to under estimate the uncertainty and often go blindfolded into next steps. This can be both good and bad, were the estimation sometimes can be difficult and will therefore reduce the entrepreneurs will to proceed. On the other hand, when the uncertainty factor is underestimated it can lead to more failures and unexpected obstacles that can affect the process greatly.

3 Aims, Objectives and Research Question

Entrepreneurship can be challenging. Building up an innovative business can be both stressful and complicated. This challenge becomes even more challenging when factors from the outside world become unstable. When the economic collapse happened in Iceland in the year 2008, the environment suddenly became unstable. Iceland seemed to be going bankrupt and no one knew where this would lead the country. Those who were working in entrepreneurship at the time must have been affected by those circumstances. It is interesting to discover how entrepreneurial firms were affected by those events and how they reacted.

It can be difficult for leaders to know how to deal with an uncertain and complex environment. Leaders in entrepreneurial companies have a diverse background and are not equally aware of how the environment might affect their business.

The research aim will analyze *how leaders in entrepreneurial companies did experience the environment during the period from before, during and after the collapse, and to find out how they reacted based on their estimation.*

The research question is:

How did entrepreneurial companies' leaders manage their business in an unexpected chaotic environment, and how did they deal with the uncertainty and complexity through that process?

To answer the research question it is important to understand what was affecting the firms from the outside-in. Those factors might have been affecting the leaders' decisions that would in turn affect the firm's success chances. The topic will be addressed on three levels.

1. **Overall analysis of Icelandic KIEs' destiny:** A quantitative research in order to see if entrepreneurial firms in Iceland developed in any way than the ordinary.
2. **Macro level analysis.** A qualitative research to find out how the environment changed and affected entrepreneurial firms in Iceland from the outside-in.
3. **Micro level analysis:** A qualitative research to gain a deeper understanding of how managers estimated the situations, how they reacted to it and which effect it had on the firms' development.

3.1 Research Scope

It is to have in mind that this research aim is only on Knowledge Intensive Entrepreneurship and does not reflect how the collapse did affect other firms operating under the conditions created around the economic collapse.

Operating in a small society and in a small economic system like is on Iceland, has both its pros and cons. This topic was addressed in during the macro level analysis, but was the findings not considered to be relevant to this research aim. The finding can be found in Appendix E, for those who are interested to know more about the topic.

The world crisis did follow after economic collapse in Iceland. This research will not consider the effects the world's crisis did have on KIE firms in Iceland. The focus will be limited to Iceland's economic collapse and which effect it had on the KIE firms.

4 Methodology

The methodology chapter will aim on explaining the overall research design and the methods used in this research. It will be explained how research is structured and how the data selection, collection and analysis will be performed. To gain a deeper understanding and make the research result more robust a triangulation of data will be used. This will give the research more reliability and validity. In Figure 4-1 shows how the triangulation is structured. The model shows how gained knowledge from different analysis will interact to each other, and work together in answering the research question.

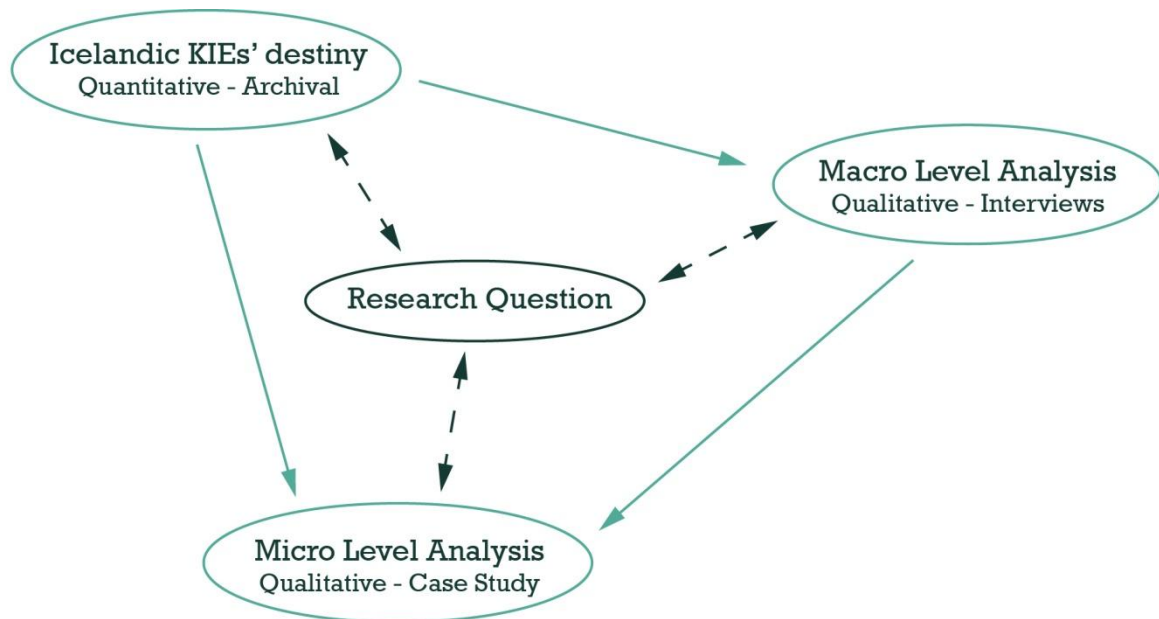


Figure 4-1: Triangulation of knowledge

The following topics will be addressed in this chapter, in the following order:

- Research Design
- Data selection
- Data collection
- Data analysis
- Advantages and disadvantages

4.1 Research design

Figure 4-2: Research Design here below, illustrates how the research is designed.

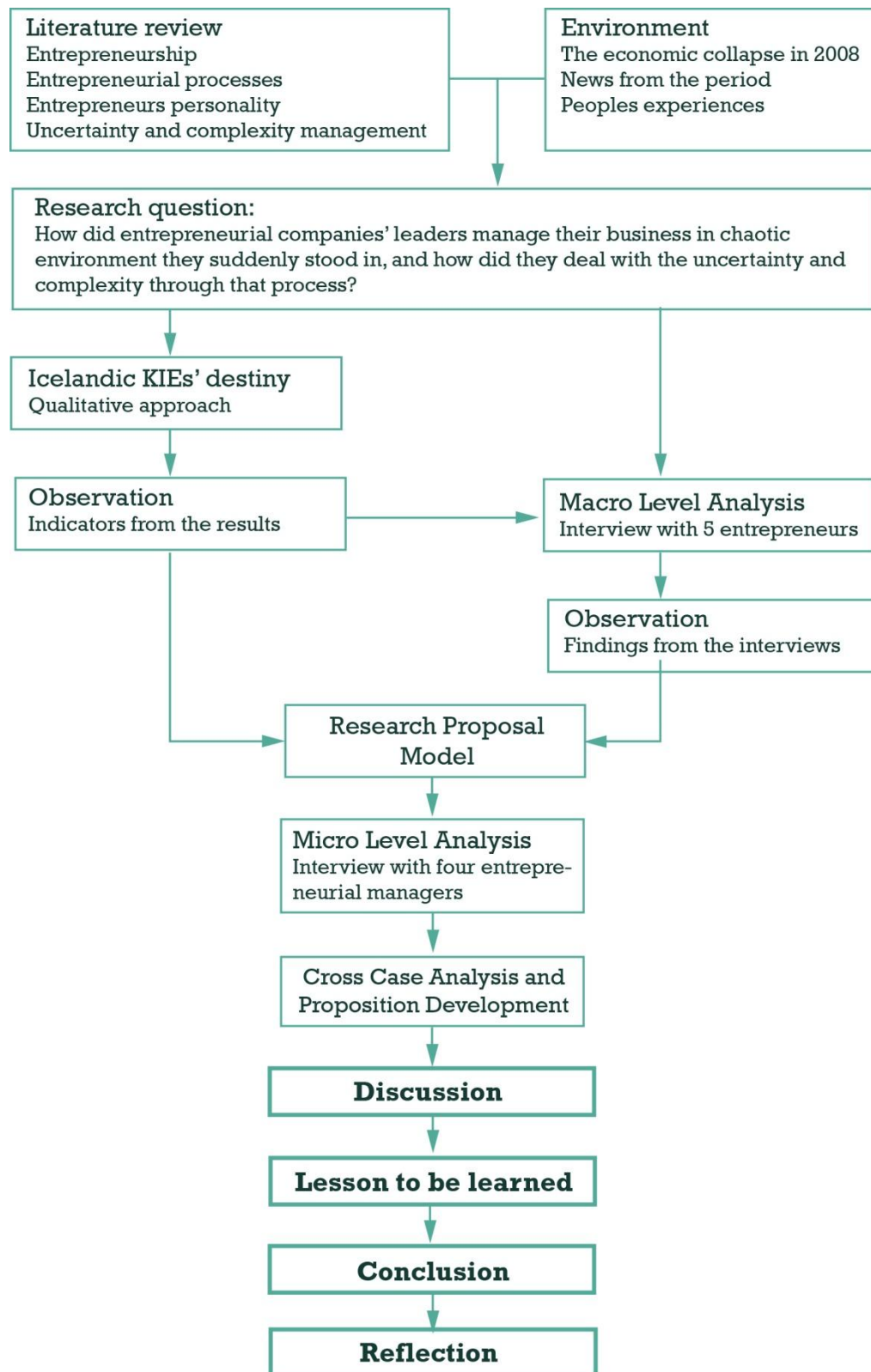


Figure 4-2: Research Design

4.2 Data selection

When designing a research and choosing methods, it is important to be clear about the research purpose. There are many methods to choose from, and they do all have their strengths and weaknesses. To figure out which method is suitable for this research purpose, a table developed by Yin [2009] is used. According to him, there are three main things to have in mind when choosing a research method.

1. The research question
2. How much the investigators has control over actual events
3. If the focus is on contemporary historical events, or if it is over all history

Table 4-1 shows how these three points used to choose a method.

	Form of research question:	Requires control of behavioral events?	Focuses on contemporary events?
Experiment	How, why?	Yes	Yes
Survey	How, what, where, how many, how much?	No	Yes
Archival Analysis	Who, what, where, how many, how much?	No	Yes/no
History	How, why?	No	No
Case Study	How, why?	No	Yes

Table 4-1: Choosing a research method

Like mentioned before, there will be made three different analyses in this research; overall analysis of KIE firms' destiny, macro level analysis and micro level analysis.

4.2.1 Overall Analysis of KIE firms' destiny

The first analysis is quantitative. The aim is to find out if a specific group of KIE firms have developed in any way out of the ordinary, from before, during and after the collapse. The research will be based on quantitative data only. That will not require any control over the circumstances and is focusing on contemporary events. According to Yin's table the suitable method is therefore Archival Analysis. The data used in this research is both primary and secondary.

4.2.2 Macro Level Analysis

The second analysis is on a macro level. The aim is to find out how the society did change from before, during and after the collapse and how that affected KIE firms at the time. The analysis does not require any control over the circumstances. According to Yin the case study method is suitable for this purpose. The data used in this research is a qualitative data only, gathered specifically for this research (primary data).

4.2.3 Micro Level Analysis

The third analysis is a micro level analysis. The aim of it is to find out how KIE managers and leaders responded to the collapse, why they did so and how that did affect the firm. The focus is on a contemporary event and does not require control of the behavior of the participants. According to

Yin's table the suitable method is a case study method. This analysis is mainly based on a qualitative data collected for the research purpose. It is supported by data collected in the overall analysis of KIE firms' destiny. The data used in this research is therefore both primary and secondary.

In following text more detail of each method is to be found.

4.2.4 Case Study

The most common definition of a case study as a research method is stated by Schramm in 1971;

"The essence of case study, the central tendency among all types of case study, is that it tries to illuminate a decision or set of decisions: why they were taken, how they were implemented, and with what result."

(Citation from Yin 2009, p. 17)

A case study is made by looking deeply into a case or cases from real life experiences. The relationship between the phenomena and the environment is investigated by using pre prepared structure to collect data about the topic. The case study method covers aspects from different methods like the logic of design, data collection techniques, and data analysis.

One of the case study hardest critiques is that it is not reliable enough. It is therefore important to design the research before it begins. Comparing the results from similar inquiry will create more reliability. The most common mistake made when using this method, is to jump into the data collection without any structure. That results in findings that are not possible to compare between cases.

Other methods can be used within a case study. Collecting both qualitative and quantitative evidences about cases gives the research more validation. This is possible to do via surveys, data analysis, historical views or other methods that can help the researcher to understand the overall topic or specific topics of the research phenomena. [Yin 2009].

4.2.5 Archival Analysis

Archival research is a suitable method to use when working with already collected data. The already existing data is gathered and re-analyzed. The results are presented in graphical way. This method is suitable to identify paths and similarities between cases. This creates a structure that shows a development over time. There are identified three different approaches to archival analysis.

Historiographic is identified by its wide range of working materials and rich details. The formal analysis is done by reading through the material. The results are informal in form of text and little or no measurements are conducted.

The Ecological approach is more formal than historiographic. The data is quantitative and not as detailed as is to be found in historiographic. The empirical strategy for this approach focuses on creating measurements to compare similarities and differences of the research topics.

The last approach is called *New Archivalism*. This type of analysis focuses on comparing data from specific time span to find any form of a pattern. The approach is fully quantitative. The results are shown in graphic ways. This approach is used in the first analysis of the research. The focus is on structuring already gathered data into graphs to find patterns among the research participants. [Ventresca & Mohr, 2011].

4.3 Data collection

Like mentioned before, is the data used in this research both qualitative and quantitative. It is collected in various ways and is therefore both primary and secondary data. In Table 4-2 an overview of the purpose of each analysis and the data collection technique used.

	Overall Analysis of KIE destiny	Macro Level Analysis	Micro Level Analysis
Method	Archival Analysis	Case Study	Case Study
Purpose	To find out if a specific group of KIE firms have developed in any way out of the ordinary, from before, during and after the collapse.	To find out how the society did change from before, during and after the collapse and how that affected KIE firms at the time.	To find out how KIE managers and leaders responded to the collapse, why they did so and how that did affect the firm.
Data Collection	<ul style="list-style-type: none"> -Research conducted in 2006 -Open source governmental documents -News from the period -Information from the Federation of Icelandic Industries 	<ul style="list-style-type: none"> -One on one interviews with 5 entrepreneurs -Open structure 	<ul style="list-style-type: none"> -One on one interviews with 5 entrepreneurial firms -Data from the overall analysis of KIE firm' destiny

Table 4-2: Overview of the used data collection method

In the following text the data collection structure for each of the analysis, is explained in more detail.

4.3.1 Overall Analysis of KIE firms' destiny

The design of this analysis highly influenced by the research conducted in 2006. This previous research provides information about KIE firms in Iceland, from before the collapse. The data is re-used and re-analyzed. The same target group as was in the previous research is used again to see how this specific group has developed from before the collapse until today.

To find out where those firms stand today, open source of governmental documents, news from the period and information from the Federation of Icelandic Industries about the firms are used. This is to find out how the firms have developed throughout the years, and if their development can be considered in any way out of the ordinary because of the economical collapse.

In the previous research the investigators collected all known working KIE in Iceland at the time.

4.3.2 Macro Level Analysis

The macro level analysis is based on primary data only. A case study method is used to collect the data. One on one interviews are taken with five entrepreneurs. The chosen entrepreneurs know the entrepreneurial environment in Iceland by own hand, and can provide information about the changes over the period of crisis. They are also questioned about what they did to minimize the negative consequences of the environmental changes. All the interviews are sound recorded and transcribed.

The interview is two sided. One side covers environmental factors, or how the environment affected entrepreneurship from outside-in. The other aspect covers the internal structure and how leaders experienced the period and how they responded. The result of the interviews is used to design the research proposal in the micro level analysis.

The interviews have an open structure. That form will give space for digging into different phenomena coming up during the interviews, and allow the interviewer to be spontaneous in his questioning. Although using an open structure it is important to have some skeleton to lean on. The protocol is built on the PEST analysis, which is shown on Figure 4-3. The questioning will cover all of the four categories; political, economical, social and technological. This is to secure that none of the societal aspects are forgotten. The interview protocol can be found in Appendix A. A summary from each interview can be found in Appendix B.

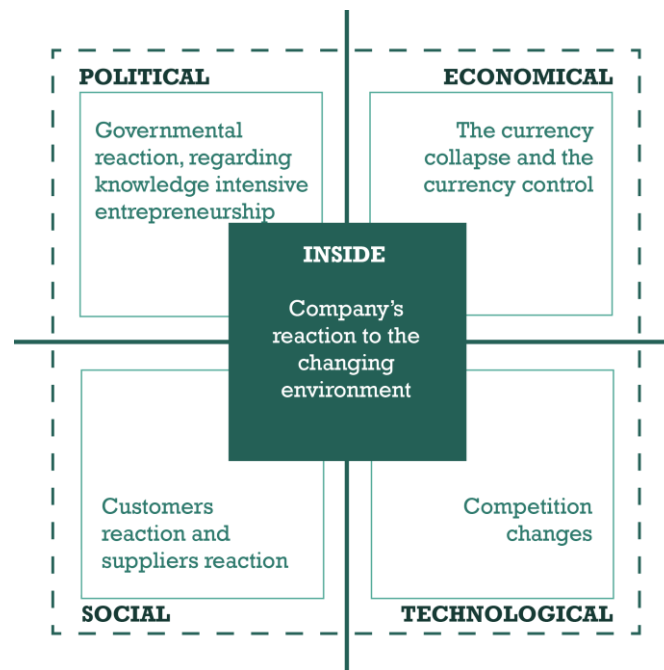


Figure 4-3: PEST Analysis

The political aspect covers the governmental side. How the governmental support was before the crisis and how it changed during and after it.

The economical aspect covers the currency collapse and the consequences of the capital control. It also covers what was happening in the financial sector at the time, e.g. like access to funding.

The social aspect covers the societal reaction, or how the societal view towards the entrepreneurs changed.

The technological aspect is regarding the sector the entrepreneur worked in. This is to discover if companies did notice any extra ordinary changes towards their working sector.

4.3.3 Micro Level Analysis

In the macro level analysis are there taken interviews to different KIE firms' leaders. All the interviews are sound recorded and transcribed.

There were four companies chosen to participate in the micro level analysis. The chosen interviewees were manager or a part of the leading team in their firm at the time of collapse. The companies they are/were part of, were all participating in the previous research conducted in 2006.

When choosing the cases, it was important to find cases that seemed different in their development. Cases with different profiles make it possible to compare how a successful firm is operating to how a less successful firm is operating. By this, it is possible to take learning from the findings and come up with recommendations of what to have in mind when running a KIE firm at time of crisis.

To encourage the interviewees to be honest during the interview, in order to get the most reliable answer, anonymity were promised. That is why the cases are named Case A-D, instead of their real names. Those are the chosen cases:

- A. Case A is chosen because it is succeeding better than it was before the economic collapse. It is a firm in growth. (Growth)
- B. Case B is chosen because it has neither grow nor declined. It has not launched its product yet, and has the same position as it had before the economic collapse. (Same)
- C. Case C is chosen because it went bankrupt before the economic collapse, but was re-established right away. It is today the same operation as it was before; the only changes were new ID and new name. (New name)
- D. Case D is chosen because it went bankrupt after the economic collapse. It was a firm in growth but because of chain of events it went bankrupt. (Bankruptcy)

To be able to compare the results between interviews, each interview will follow the same structure. The whole protocol is to be found in Appendix C. Summaries from the interviews can be found in Appendix D.

The interviews will be divided into 5 sections:

- 1. **Introduction:** Where the interviewer introduces the research and explains the procedure.
- 2. **The firms history:** Where the interviewee tells about the company, how it started and how it has developed.
- 3. **Ex-ante:** Question about the firm before the collapse.
- 4. **During:** Questions about how the managers did deal with the uncertain and chaotic environment around the collapse. Their reaction and risk management.
- 5. **Ex-post:** Question about where those decisions lead them.

4.4 Data analysis

Different method requires different analysis. Like mentioned in the beginning of the chapter a triangulation of data is used so the findings will be more robust and more detailed.

4.4.1 Overall analysis of KIE firms' destiny

In the quantitative approach the data from previous research is re-analyzed and re-structured in relation to the primary data.

First there is looked at **what has happened to this group of firm since last research**. This is categorized into four groups; still running, bankrupt, stopped for unknown reason or were sold to another firm.

Thereafter will it is analyzed, what could have affected their fate. Their survival rate is approached from two sides; **which sector were the firms working in and how old were they at the time of collapse**.

The previous research provided data if the firms did make **a business plans, or a vision and a mission**. It is studied if those factors did have influence on their fate. It will also be looked at when in time the firms did make those, if they made them at all. This is to discover if that affected their development.

All of the results will be presented in graphical way.

4.4.2 Macro Level Analysis

After the transcription of each interview the findings are summarized. The result is two sided, like the interviews. First is the outside-in approach which will tell us how the macro level did change. The second approach tells us how the entrepreneurs responded to the changes. The outside-in approach findings are categorized into three periods; Ex-ante, during and ex-post. The inside-out approach will revile the entrepreneurs' countermeasures towards the economical collapse.

By this it is possible to see what changed for entrepreneurship during this period.

Ex-ante

This is the period before the collapse. The result shows, what factors were affecting entrepreneurship before the economical collapse. At the time the environment was still considered stable.

During

This period begins when the first bank was declared bankrupt in October 2008, and do conver the first months thereafter. The results will show what was happening in the society regarding entrepreneurship at the time. During this period the circumstances were considered chaotic.

Ex-post

This period spans the time when the environment became less chaotic. The environment was considered to be a stable chaos and the results will show what was affecting entrepreneurship at the time.

4.4.3 Micro Level Analysis

This analysis is the primary analysis in the research and do the cases therefore receive deeper analysis for deeper understanding.

Each case is presented in a case report and the findings from each case are summarized into results. Each case is presented and analyzed according to following structure:

- Firm's history
 - When it was formed
 - Who formed it
 - Why it was formed
 - Entrepreneurial process at time of collapse
- Business planning
- Funding
- Management
 - History of managers
 - Estimation of uncertainty and complexity
 - How they reacted
 - Why they did so

Cross case analysis

When each case report has been made the cases will be compared in a cross case analysis. They will be compared in following categories:

- Business Planning
- Funding
- Uncertainty and complexity management
- Process development
- Reactions

The cross case analysis shows if there are any differences between decisions and countermeasures made in the successful firms and the less successful firms.

4.5 Reliability and Validation

All methods have both strengths and weaknesses. It is important for the researcher to be aware of both sides of the chosen method.

In case study five aspects are under more critique than others. The first one is a general theoretical knowledge is considered more valid than a specific knowledge. The second critique is it is not possible to generalize from one or few cases. The third is a case study is considered relevant in the starting phase of a research to create hypotheses, but not for the whole research. The fourth part is that the researcher is bias, which can lead to verification of perceived notion. The fifth and the last critique is how hard it is to summarize the result, and compare it to the theory. [Merriam, 2009 and Flyvbjerg, 2006].

Those critiques do have its rights. However, it does not mean that a case study is a negative method. It can be difficult to use other methods within social sciences, and does a case study method provide unique knowledge about individual cases. This knowledge can be learned from, and can be used for further development within the field of the research phenomena.

There are many advantages in using archival method. The used data is reliable and it is easy to compare the results. However, it is important to consider that a data which is collected by others can be limited and it is often difficult to gain new information from the past. This method does therefore not allow the researcher to look deeper into the topic that the existing data allows. This method is therefore not suitable when the aim is to look deeper into the topic to understand what was happening behind the scene. [Samhsa, n.d].

5 Overall analysis of Icelandic KIEs' destiny

In this chapter the fate of Icelandic KIE companies established before the collapse will be looked at and analyzed, in order to see if their development is in any way out of the ordinary. The research is based on quantitative data collected from the Tax Ministry of Iceland and the Federation of Icelandic Industries, along with another research conducted in 2006. The data will be gathered, structured, and presented in graphic way.

Following topics will be introduced and analyzed in this order:

- Summary of previous research.
- The fate of the companies from before until after the collapse
- Possible influencing factors on their survival.

At the end of the chapter the results will be summarized and reflected up on.

5.1 Previous research: Supporting environment for start-up companies in Iceland

In 2006-2007, The Federation of Icelandic Industries in cooperation with The University of Reykjavík researched all known KIE and their supporting environment. In this section the data collected in that report will be used to find out what has happened to those firms since. The aim of the previous research is different from this one, but the gathered data can be used to compare information about the firms from then until today.

5.1.1 About the research

In 2006, two students from the University of Reykjavík (Hilmar Björn Harðarson and Pálmi Blængsson) wrote a report in cooperation with Federation of Icelandic Industries. The aim of the report was to research and analyze how much support start-up companies received from the supporting environment in Iceland.

At the time the research was preformed, there were 105 start-up companies in Iceland. A total of 74 participated in the research. They were working in the following sectors:

- Software and related (27)
- Production / tool design for aluminum production (3)
- Design / production of devices / other things for the healthcare sector (14)
- Development of methane and other unconventional fuel (4)
- Multimedia television and computers (5)
- Production and development of electronic equipment (7)
- Industrial production (6)
- Other (8)

All of the 74 firms were established before 2006. The firms were asked different questions but the main focus was finding out if the companies had knowledge about the available support options and their usefulness. There were in total 16 organizations offering support to KIE with 49 possible options. The firms were asked if they had received any of the support offerings and how helpful it turned out to be. At the same time they were asked how the supporting environment could be improved.

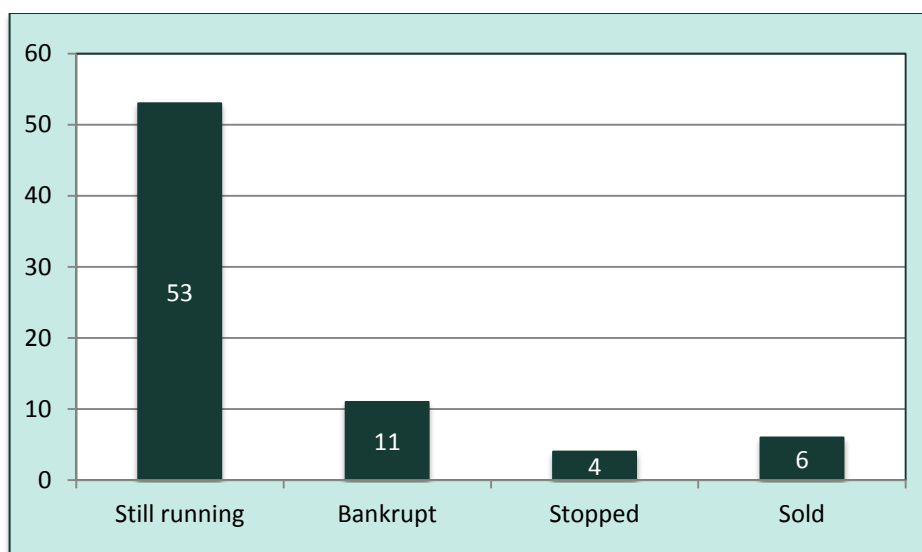
The result of the research was that the firms which received help found it helpful. The problem was to find the right help at the right time. They found the supporting environment both complicated and disorganized. That made it difficult for the companies to find assistance and a lot of time wasted in search for the right kind help.

5.2 Fate of the companies

In this section, there will be analyzed what has happened to the companies since the previous research was conducted. The question is how many of those firms are still up and running. If bankrupted, it will be analyzed when the firms went bankrupt and if their fate had could have anything to do with the collapse, the sector they were working in or their age.

5.2.1 How many companies are still up and running?

The Tax Ministry's website offers open access to business registration system of all Icelandic companies (www.rsk.is). It is possible to see the date a company was first registered and what the status is today. If the company status is *unregistered*, it is possible to see when it went bankrupt or was unregistered. The reason why it was unregistered at some point in time cannot be seen on the website. Of the 74 companies, there were 10 companies status was *unregistered*. To find out what has happened to those 10 companies, data from The Federation of Icelandic Industries and general internet search were used. The companies were then divided into four groups: Still running, bankrupt, stopped or sold. These figures are shown in Graph 5-1.



Graph 5-1: Companies fate.

There are 72% of the firms still running. 15% went bankrupt, 8% were sold to another company and 5% stopped of other reasons.

5.2.2 Survival rate categorized after sector

In Table 5-1 it is possible to see how those companies were divided into sectors. The sectors are the same as in the previous research. According to this table a company is most likely to survive if it

works in the field of production of any electronic devices. It has the least chance of survival if it is working for the aluminum sector. Some of the sectors have so few companies, that it is difficult to base on the numbers. To understand those numbers better it is necessary to look at each sector individually. In the text below each category is analyzed.

	Total	Working	Bankrupt	Stopped	Sold
Software and related	27	77,8%	14,8%	-	7,4%
Production/design for aluminum production	3	33,3%	33,3%	-	33,3%
Design/production for healthcare sector	14	57,1%	14,3%	7,1%	21,4%
Development of methane and other fuel	4	75%	-	25%	-
Multimedia for television and computers	5	80%	20%	-	-
Production/development of electronic devices	7	85,7%	14,3%	-	-
Production for diverse industry	6	83,3%	16,7%	-	-
Other	8	75%	12,5%	12,5%	-

Table 5-1: Companies fate categorized after sector.

Software and related

Most of the companies are within this sector, or 36%. There is an almost 78% survival rate which is above the average. The number of bankruptcy is under the average.

Production/design for aluminum production

Only a few numbers of companies operate within this sector. One is still running, one went bankrupt and one was sold. When looked closer at these companies it was discovered that the sold company was bought up by a company which is still running.

Design production for healthcare sector

The numbers from this category are really interesting. The survival rate it is far below the average. On the other hand, the companies which are not running anymore, it is interesting to see how many of them were sold. The amount of sold companies can be explained by the fast growing industry during the last decade. This is a sector with high competition, and in many cases bigger companies buy the smaller one. [Wright, 2013].

Development of methane and other fuel

Developing a new fuel alternative has been in the spotlight in the global world. That could explain why the companies in this sector are doing well and have no bankruptcy rate. On the other hand there are just 4 companies in this category, which can mean that the numbers do not reflect the global industry.

Multimedia for television and computers

This sector does not show any numbers out of average. Out of 5 companies there are 4 still working and 1 went bankrupt.

Production/development of electronic devices

According to the table, this sector has the highest survival chance. This may indicate that those companies have a “niche” product with low competition on the market. That could also explain why none of the companies have been bought by others.

Production for diverse industry

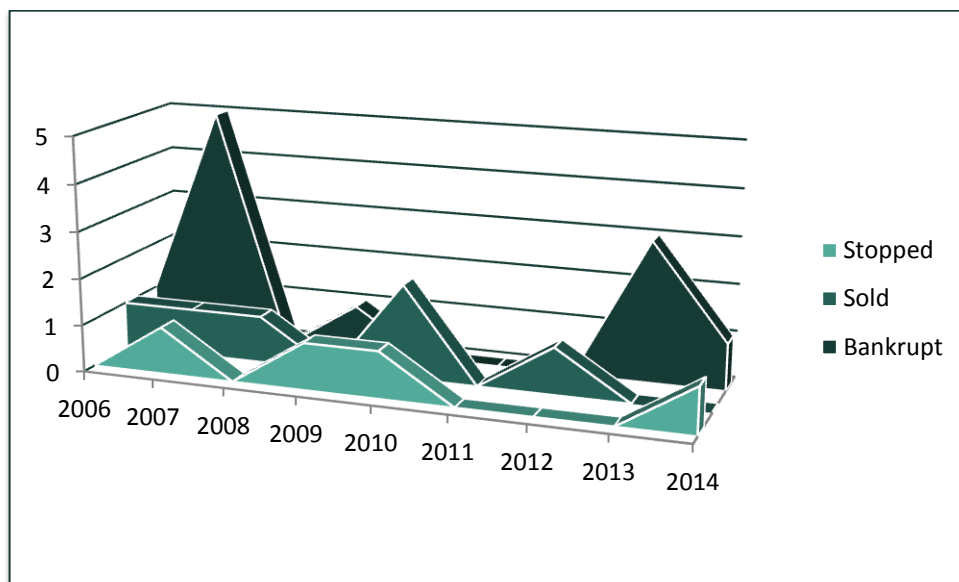
Even though the numbers from this sector do not show anything out of average, it is interesting to see the number of bankruptcy, which is above average. None of these companies have been sold out or chosen to stop.

Other

This category includes companies within various sectors and the difference between the companies is considered too big to compare.

5.2.3 At what time did the companies stop operating

In order to analyze if the economical collapse was the key factor in the companies destiny, a closer look at the time of change is needed. To do this each company is categorized into their corresponding category: stopped, sold or bankrupt with regards to time. The timeline is shown in Graph 5-2: A time.



Graph 5-2: A timeline showing the year a company's status changed into one of the three categories.

It is interesting to notice the high rate of bankruptcy in the year 2007. This is actually one year before the economic collapse. Iceland's economy, at the time, was booming and economical opportunities seemed everywhere. However as previously mentioned, this resulted in a collapse the year later. The statistics however, based on the graph, indicate that a crisis for start-ups started already in 2007. Fewer bankruptcies were filed in the year after the collapse, which was unexpected to the author.

5.2.4 Company age at the time of collapse

In the definition of Knowledge Intensive Entrepreneurship companies, defined in chapter 2.1, the age of a company is not taken into consideration. However looking at start-ups it is difficult to neglect the age. The age of the company relates to where in the development process a company is located. It is therefore relevant to see if the age of the company has affected their fate. Graph 5-3: Companies fate compared to their age in 2007 shows the relation between the fates of each company compared to their age in 2007. An expected result would be that older companies are more likely to still be running.



Graph 5-3: Companies fate compared to their age in 2007.

The graph shows that if a company was older than 11 years, it was most likely to be sold out. If a company was younger than 5 years, it was most likely to stop for any other reason. Otherwise there were no outstanding differences between the age of the company and their destiny.

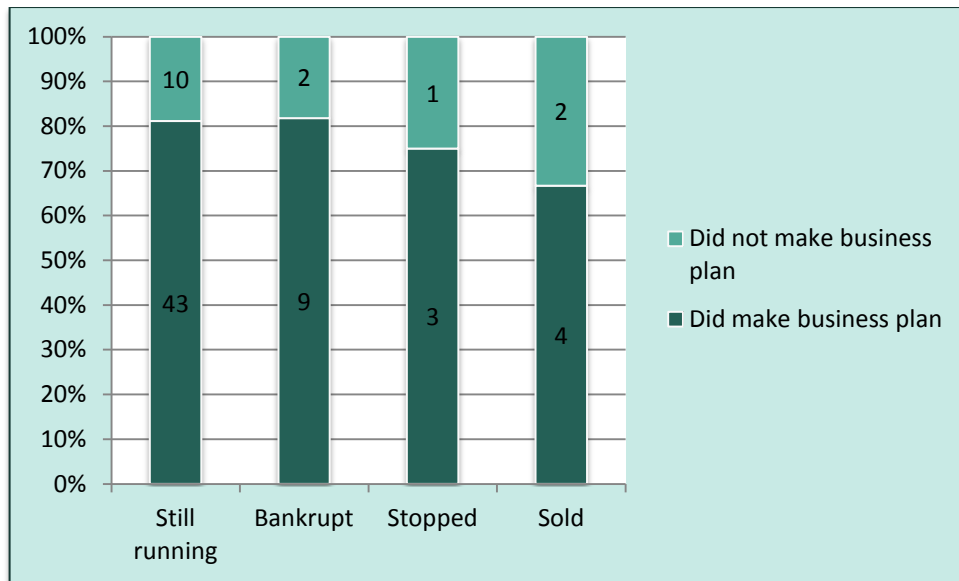
5.3 Business plan and companies vision and mission

It is common, in today's business world, to preach about the importance of having a vision and a mission for the company and to make a business plan. This is considered to minimize the risk of failure. In the previous research the companies were asked if they had made any business plan and set the company vision and mission. This will be compared to the company's fate.

According to the previous research a business plan must include; *description of the business idea, introduction of owners and the members of the commission board, marketing plan and financial plan.* Vision and mission must include; *future vision, milestones, strategy plan, implementation of strategy and adjustment of strategy.*

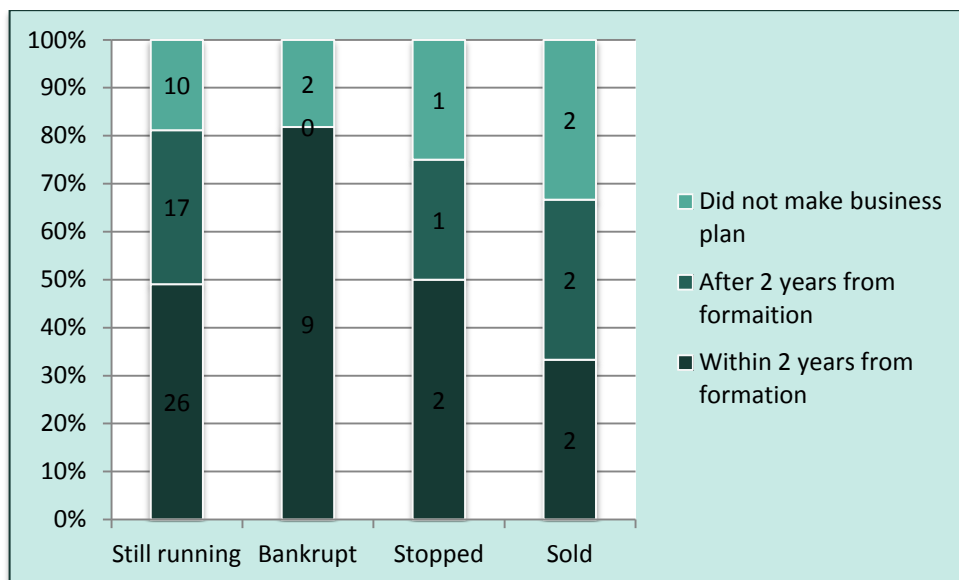
5.3.1 Business plan

In this section the fate of the companies are analyzed based upon if they made a business plan. Around 80% of the 74 companies had made a business plan. Graph 5-4 shows the relation between the fate and business plan making. According to the results 80% of the firms that are still running, had made a business plan. On the other hand, the same percentage of them who went bankrupt did make a business plan. According to this, it seems irrelevant if the firm made a business plan or not.



Graph 5-4: Fate of companies with respect to if there was a business plan or not.

To analyze the effect of a business plan, it is relevant to see when it was made. Graph 5-5 shows the fate of the companies compared to when the business plan was made. The firms were categorized into three groups, those who did not have any business plan, those who made a business plan within two years from establishment and those who made a business plan after two years from establishment.

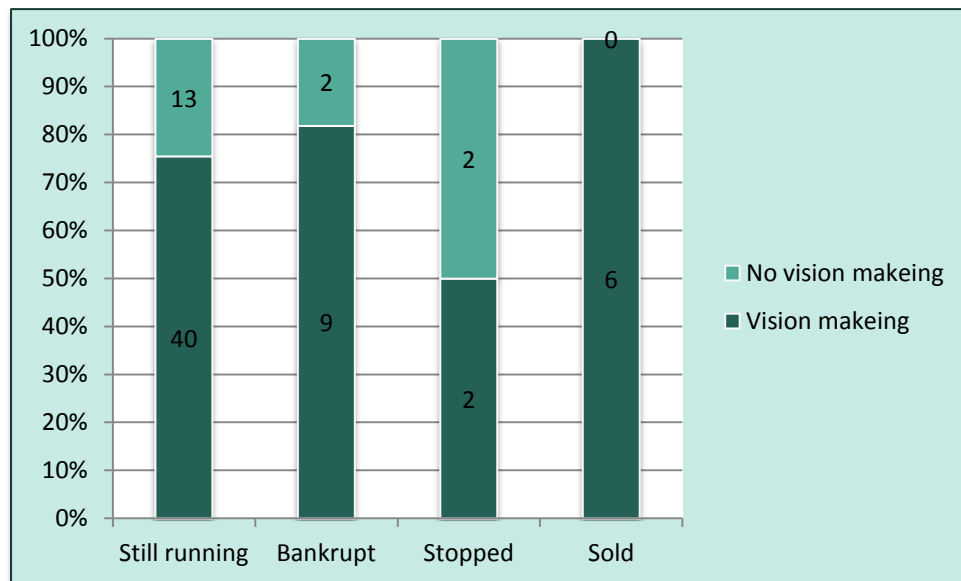


Graph 5-5: Fate of companies with regards to the timing of business plan.

It is interesting to see that firms that went bankrupt had all made the business plan within two years from establishment or did not make one at all. According to this, a company is more likely to go bankrupt if it makes a business plan before or soon after they start the company.

5.3.2 Vision and mission

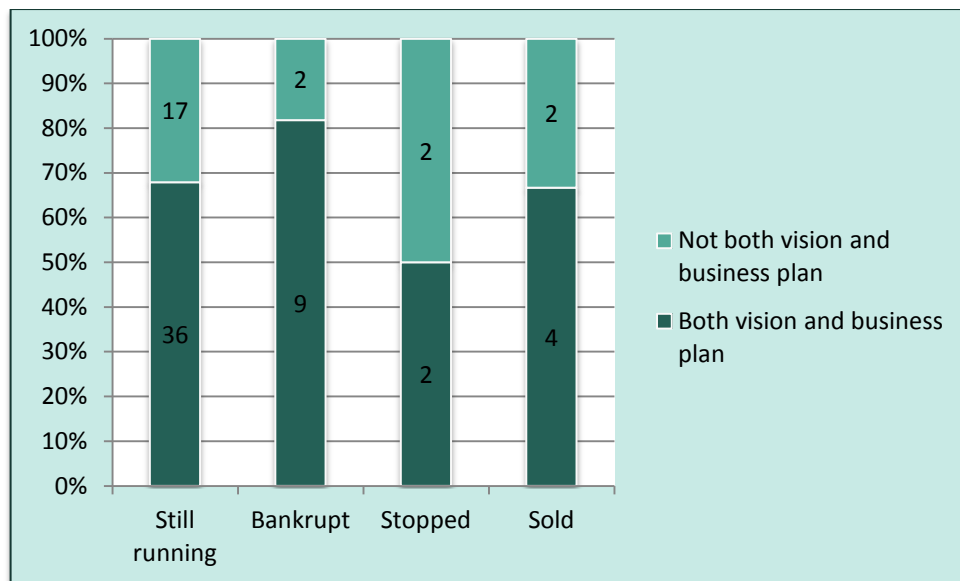
In this section the relationship between the companies' fate and creation of a vision and a mission is analyzed. Graph 5-6 shows if having a vision and a mission for the company had any effect on their fate. The graph shows that all of the companies which were sold had created a vision and a mission. On the other hand it can be seen that companies with no vision or mission were more likely to stop for some reason, than to be sold, go bankrupt or operate. The making of a vision and a mission did not seem to decide if a company went bankrupt or not. It is interesting to see that around 80% of those who went bankrupt did have a vision and a mission.



Graph 5-6: Fate of companies with respect to their vision and mission making.

5.3.3 Both a business plan and making of a vision and a mission

It is furthermore interesting to see if companies that both made a business plan and had a vision and a mission for the company, did any better than others. On Graph 5-7 it can be seen that around 80% of companies that went bankrupt, both did a business plan and had a vision and a mission. It is also interesting to see that only 67% of the companies, still running, did both make a business plan and created a vision and a mission.



Graph 5-7: Fate of the companies with respect to making of a vision, a mission and a business plan.

5.4 Chapter Summary

In this chapter data for KIE companies established before 2006 in Iceland were analyzed. The firms participating in the previous research were re-analyzed. To determine their fate data from the Tax Minister of Iceland and from Federation of Icelandic Industries were used.

It was enjoyable to see how many of the firms are still running today, or a total of 72%. In the USA, the average failure rate among start-ups is around 46% in the first four years after establishment. Their chance of success grows as the firms gets older. [Timmons, 2008]. Many of the analyzed firms in this research were older than 5 years (82%) at the time of collapse. A survival rate of 72% may therefore be considered good without being out of the ordinary. Although the survival rate is good, it does not indicate if the companies are a success or not. It is not known if the firms are making a profit or have even reached the point of *-return of investment*.

The most interesting and surprising result, in this chapter, is that in 2007, a year before the collapse, was the highest rate of bankruptcy among those firms. About 45% of the firms that went bankrupt in the period 2006-2014, went bankrupt in the year 2007.

This indicates that something was going on in Iceland before the collapse, which was affecting entrepreneurship in a negative way.

Knowing that, it may be noticed, that there was another peak of bankruptcy in 2013. At this point the crisis was considered to be over and the economy of Iceland was on its track again. Nevertheless, there were voices of doubt showing up amongst other rather optimistic news. The economy of Iceland has been recovering faster than other countries in Europe. The atmosphere of society today is in many ways similar to the atmosphere before the collapse in 2008. Economics around the world point out that Iceland is recovering too fast and that Iceland is not dealing with the true issues of the collapse. They have predicted that Iceland is on its way to next meltdown. [Sanati, 2013].

If that will be the case, the peak in 2013 will again support that the prelude to a crisis is harder for start-ups than a crisis itself. This is also interesting if compared to numbers from Statistic Iceland.

Their numbers show that a bankruptcy among Icelandic enterprises starts to rise in 2009 and is at its highest in 2011. [Statistic Iceland, 2015].

The making of a business plan has been one of the debating objects of entrepreneurship. The debate is regarding the value of it for the entrepreneur. In the previous research the participant were asked if they had made any business plan, and created a vision and a mission for their company. They were also asked when in the process they did so. Overall the results show that the making of those tools were not vital for the fate of the companies. This is in contrast to what Groen, Van der Veen and Wakkee consider being one of the vital factors for successful entrepreneurship. Like was shown in Figure 2-1 and Figure 2-2 a strategic capital is one of the four main mechanisms affecting entrepreneurial process.

It was therefore to be expected that business planning, vision and mission making should be seen more often among those firms who are still running, and less often among those who went bankrupt. This was however not the case, and leads to a deeper analysis into a micro level analysis.

6 Macro Level Analysis

To gain more knowledge and a better understanding of the societal changes from before, during and after the collapse, it was decided to interview a few entrepreneurs. The chosen entrepreneurs had all been working in the field of entrepreneurship during that period. All of the chosen interviewees have different backgrounds, and are both old and new to the business.

The aim of these prior interviews is to understand what was happening for the working environment in Iceland during the period around the collapse. The interviews are used to gain a more background knowledge and a better understanding about the societal effect on entrepreneurship. Like mentioned in the literature review chapter, there are four main mechanisms that do affect the entrepreneurial process (see Figure 2-2). The entrepreneurs will be asked about those topics and how they experienced the environment at the time.

This chapter will include following:

- Overview of the interviewees.
- Interview structure and results.
- Chapter's summary.

6.1 The interviewees

Five entrepreneurs were chosen for the interviews. All of the interviewees were selected at random from the Federation of Icelandic Industries network. They all have different backgrounds and are related to the field of entrepreneurship in various ways. Although, they all have in common that they are a leading successful business, today. To encourage the interviewees to be honest in their answering, anonymity was ensured. They will therefore be numbered in roman numerals from I-V and are as follows:

Interviewee I: *Founder and current CEO of his own adventure*

- The entrepreneur has started two successful companies in his lifetime. He is now running his second venture, which has been growing and developing from the year 1985. He was living in Iceland and running his firm at the time of crisis and is therefore a relevant candidate for this interview.

Interviewees II: *The founder and current executive chairman of own adventure, and the current CEO of the firm.*

- Two persons participated in this interview. One of them is the founder of a business, which has been growing since the year 1992. He was the CEO at the time of crisis but stepped aside in the year 2013. The new CEO is also with us in the interview. He was working in another company at the time of collapse and experienced it from a different angle. He is therefore relevant candidate for the interview as well.

Interviewee III: *Current CEO of another's person adventure.*

- The interviewee started as CEO of the company in 2008, right before the collapse. He was replacing the founder who had been building up and developing the firm since 2000. The

founder is still working in the firm, and is leading the R&D department. The interviewee experienced the collapse at first hand and is therefore relevant to this research.

Interviewee IV: *The founder and current chairman of own adventure*

- The interviewee founded a firm, with two others entrepreneurs, in 2001. He was the CEO from start until 2014. The firm has been growing and is doing great. He experienced the collapse from first hand and is therefore relevant to interview.

Interview V: *A serial entrepreneur*

- The interviewee has started several adventures. He started his most successful adventure in 2002 and was the CEO until 2012. He is still the owner and chairman. Since then he has been building up a new firm. He has been an entrepreneur for many years, and does know the working environment and how it has developed over the years. He is therefore relevant candidate to this research.

6.2 Outside-in approach

In this section the result from the macro level analysis are introduced. The main findings are summarized and shown in Table 6-1: Environmental changes. The table shows the changes in three categories, political, economical and social.

It is important to notice that the table is divided into three different periods. *Ex-ante* is the time before the collapse. *During* is the time of collapse. *Ex-post* is the time after the collapse when things started to settle down again.

Ex-ante

In the months and even years, before the collapse the economy had been expanding greatly. The financial sector was a high trend at this time. It was fancier to become a banker than e.g. a technical specialist. This attitude seemed to be shared by investors and the government. Because of the rapid expansion of the economic system, it appeared easy to get high and fast return of investment (ROI). Investors turned to the banks to invest, instead of investing in entrepreneurship that are known for high risk and long time to ROI. The government did not focus on entrepreneurship and innovation. There were no privileges for those firms, such as return of taxes or other vital features for start-ups. It was also hard for them to get any funding, due to the lack of interest from the investors. The banks did not like to invest such small amounts with long return and the government did not set aside any money into official funds. It was almost as entrepreneurship was forgotten at the time.

During

In the chaotic environment at the time of collapse no actions were taken by the government, towards start-ups. The government was busy saving the falling banks and trying to keep the country above water. A capital control was established. That was an attempt to stop the money from flowing out of the country, in order to keep the Icelandic currency from a further downfall. Firms and individuals were no longer able to transfer capital out of Iceland without permission from the Central Bank of Iceland. These actions did not seem to hit the entrepreneurial firms hard to begin with. It was more in the form of inconvenience. They were not able to pay foreign bills without permission and other small tasks that usually took no time became a lot of extra work.

For firms that did have foreign income, the currency fall was not so bad. Their incomes doubled due to the low value of the Icelandic currency. For those who did not have income from abroad, found it more difficult to meet the increasing costs all around. To understand how extremely the currency did change its development can be seen in Figure 6-1. The graph shows the rabid evaluation of Icelandic kroner compared towards the Danish kroner from 2005-2015. [The World's Trusted Currency Authority, www.xe.com]. There That meant that everything that was in a foreign currency increased, both income and debts.



Figure 6-1: Exchange rate of ISK and DKK over the last 10 years.

Within Iceland the environment changed. All of a sudden suppliers became suspicious about everything. They set deadlines for a payment down to a few days and took nothing for granted. Outside Iceland things did not change as much. Iceland got high publicity because of the collapse. The firms did not notice any negative reactions from suppliers and other business partners. They experienced more curiosity about the situation and sympathy towards them. In few cases that might have had impact on potential customers. It is not known if that was the Icelandic collapse that scared them away or the overall global crisis.

Ex-Post

When some time had passed from the collapse, the environment became more stable again. The crisis started to affect the whole society more effectively. It was no longer a trend to be in the banking sector; on the contrary it became contempt. The contraction on the domestic market started to affect firms all around. This was especially bad for those who had a business within the country borders. Firms, both official and private, started to prioritize to a greater extent, and things that were not vital for the firm, were cut out. After the Icelandic collapse the global crisis became formal. This did also affect the entrepreneurship, but was not as extreme as on the domestic market.

The government started to focus on building up the economy again and entrepreneurship got on their radar. Various start-up funds started to receive governmental money, and the firms were able to get tax privileges for their research and development. The firms could also get cheaper workforce by hiring someone registered unemployed. Even though the government made it able for foreign investors to invest in Iceland, the capital control seemed to scare them away. Domestic investors started to show interest in Icelandic entrepreneurship. It was therefore easier to get funding after the collapse rather than before.

With time the capital control began to take its toll. It became harder to expand the business outside of Iceland and some firms thought about moving the business abroad. Few of them did. It became more difficult for the firms to compete worldwide, because with an increasing rate of inflation followed a higher salary cost.

	EX-ANTE	DURING	EX-POST
	POLITICAL		
	<p>No focus on funding research funds</p> <p>No tax privileges for start-ups</p>		<p>Funds got more money to work with</p> <ul style="list-style-type: none"> -complex application process <p>Tax refunding for research and development</p> <p>Free/cheap workforce from unemployment registration</p>
	<p>Hard to get funding</p> <ul style="list-style-type: none"> -Needed too small amounts -The finance sector overruled the technical sector, -Banks and investors did not want to invest with this long time to ROI 	<p>No deadline for payments to suppliers</p> <p>The currency fall</p> <ul style="list-style-type: none"> -The foreign income doubled -No currency related bank loans <p>The currency control</p> <ul style="list-style-type: none"> -Inconvenience 	<p>The currency control</p> <ul style="list-style-type: none"> -Hard to build up outside Iceland -Hard to get foreign investor -Hard to operate in the long run <p>Domestic investors got interested</p> <p>Need for funding to grow</p> <p>More expensive labour force</p>
	<p>The attitude towards the technical sector was negative</p> <p>The economical system was expanding greatly</p>	<p>Potential customers got suspicious</p> <p>The image of Iceland</p> <ul style="list-style-type: none"> -Newspapers over the world – publicity -The focus on the product, not where it came from -Icelanders had more doubt than others <p>Everything staid still in Iceland</p>	<p>Contraction on the domestic market</p> <ul style="list-style-type: none"> -Really aggressive prioritizing <p>The following world crisis</p>
	SOCIAL		

Table 6-1: Environmental changes

6.3 Inside-out approach

This section will show how the entrepreneurs experienced and reacted to the collapse. This approach was a pre-analysis to gain more knowledge and understanding about the micro level reaction towards the macro level changes. The knowledge gained in this section was used to create a better structure for the micro level analysis. The participants were asked, what they did within their company as a countermeasure to the chaotic situation and what it was that kept them alive? The entrepreneurs' main countermeasures are shown in Figure 6-2.

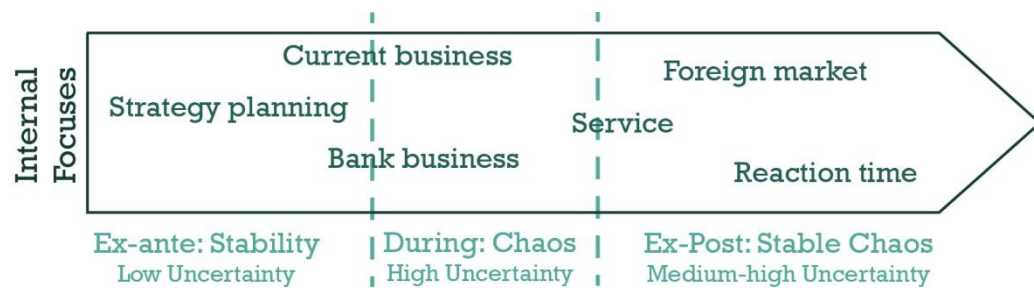


Figure 6-2: Entrepreneurs first reaction

When the economic system in Iceland collapsed, the first thing everyone did, was to rethink their banking business. Because of different complications the collapse created, they wanted to make sure that they were able to pay their bills and get paid. The currency collapse affected those most that had loans in foreign currency or were dependent on buying goods from abroad. The currency fall and contraction on the domestic market hit those that were relying on the domestic market for income, hard.

In the prelude to the collapse, everything seemed to be so easy. People saw gold on every corner and firms were trying to expand by increasing their offerings. After the collapse, the focus changed from expanding the business to maintaining it. They decided to focus on their current business and tried to be better at what they were good at. Their time and money went therefore in a further development of own products instead of making new ones, and the level of service became much higher.

All of the interviewees agreed on the fact that Iceland's market was too little and unstable to lean on after the collapse. They therefore decided to go abroad in a much higher scale. Their income in foreign currency did become a good income in Icelandic currency and therefore balanced their income again.

6.4 Chapter Summary

The macro analysis was made to learn more about the operating environment in Iceland at the time of the collapse. Five interviews were taken with entrepreneurs who were working in the field of entrepreneurship in Iceland before, during and after the economical collapse. The interviews were built on an open structure to create space for questioning beyond the protocol. This made it possible to gain information on the topic that was not foreseen. Each interview took about an hour and they were all sound recorded.

The interviews are divided into two sections. The first section is about how the environment was affecting the firms, from the outside-in. This gave a good indication of how the operating environment for entrepreneurship in Iceland was before, during and after the collapse. The most surprising result from the interviews was how the societal aspect changed.

The years before the economical collapse, during the prelude to it, there was a high focus on the financial sector and a low focus on the technology sector.

The economic system in Iceland was expanding greatly at that time and people were able to make a fortune in a short amount of time without much effort. This expansion exploded at last and resulted in the collapse, in late year 2008.

People did not believe in felt that they could not relay on the banking system. Many of the most known business men in Iceland had to leave the country to get away from constant harassments. It was no longer popular to be a business man.

After the collapse, both the government and the private investors changed their focus of their investment. This led to a better access of money for entrepreneurial firms and increased governmental support.

The governmental reaction to the collapse was to set up a capital control to restrict the flow of capital from Iceland. This did not impact entrepreneurial firms hard at first. It was more in the form of inconveniences for them.

Because of capital controls, domestic investors were forced to invest within Iceland's borders. This was one of the reasons why entrepreneurial firms did have a better access to funding after the collapse.

The second section is regarding the entrepreneurs experience and reaction over this period. It describes their countermeasures to the situation seen from the inside-out.

What they did was to focus on their current business and reaching out to new markets. They often prioritized their service with a focus on a quick reaction time for the customers.

It was interesting to see that the entrepreneurs did not consider the collapse to have a major effect on the firms' development. The domestic market became harder to deal with, but by going abroad and finding new markets, they could get paid in a foreign currency that gave them a better income once transferred into Icelandic kroner. The government attempted to make it easier for entrepreneurial firms to operate, and the interviewed entrepreneurs utilized those options with good result. **It was their experience that it became in many ways easier to operate in Iceland after the collapse.** They became more accepted in the society and with some governmental support they were able to develop their businesses with more success.

7 Micro Level Analysis

In this chapter an analysis of four KIE firms is performed in order to understand their way of management. These four companies were chosen from the previously analyzed 74 companies based on their fate. The aim of this analysis is to find out how the leaders of the KIE companies, established before 2006, reacted to the uncertainty and complexity in the environment in the period of around the crisis.

A case study method is used to collect qualitative data through interviews. The interviews are taken with people who were managers, or part of the leading management during this period.

Following topics will be introduced and analyzed in this order:

- The research proposal.
- The research design.
- Case reports and result.
- Cross case analysis and propositions development.

At the end of the chapter the results will be summarized and reflected up on.

7.1 The research proposal

Based on the two preliminary analyses from chapters 0 and 6, a proposal on the firms' development during the period from before, during and after the collapse, has been designed. The model is shown in Figure 7-1. The model shows expected development of a KIE over a period of time. It is predicted that firms are in their growth at the beginning. At this time the level of uncertainty and complexity is low and therefore the firms' development is stable. In the prelude to the collapse, the economy begins to expand greatly and the societal focus is on the financial sector. This creates turbulences for the KIEs that result in chaotic time, before and during the collapse. The level of uncertainty and complexity is high at this time. During the time of chaos, leaders make decisions that will affect the firms' development. Those decisions mark how the firm develops thereafter. When the environment becomes more stable again, the firm will be somewhere in the span from bankruptcy to growth.

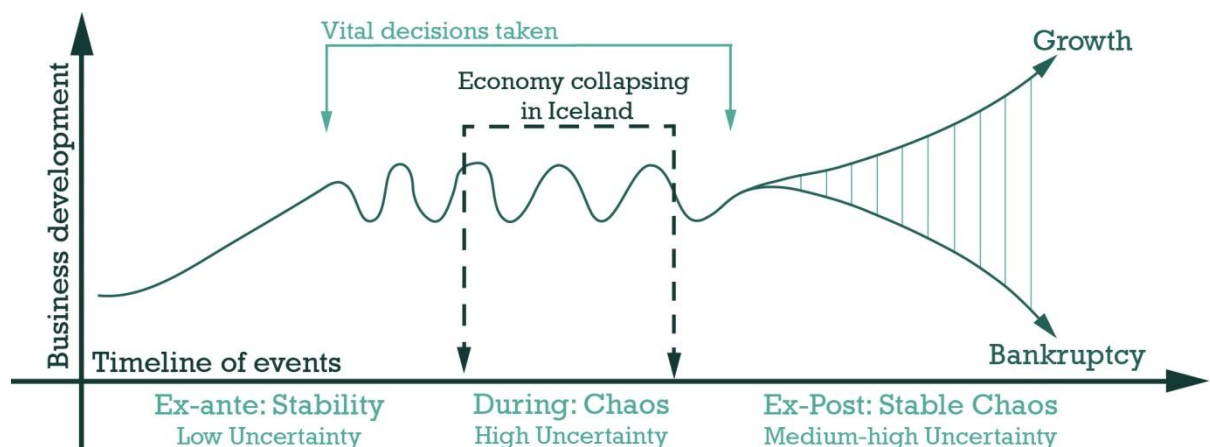


Figure 7-1: Research Proposal Model

Figure 7-2 is based on the results from the preliminary research. It is an assumption of how managers' counter measured the unstable environment, in order to grow their business. The model indicates that those who have succeeded took an informed decision about their strategies. A strategy of focusing on their current business and enter into foreign markets with a better service and quicker reaction time than their competitors.

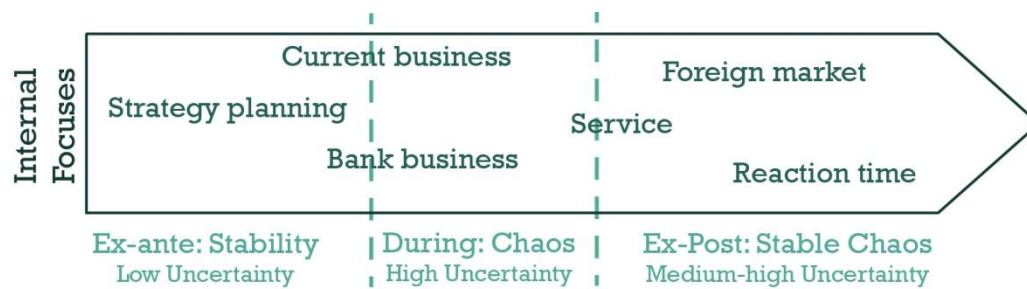


Figure 7-2: Proposal of successful reaction

7.2 Case Reports

In this section each case will be introduced and analyzed. The cases were chosen and analyzed like described in chapters 4.3.3 (page 31) and 4.4.3 (page 33).

7.2.1 Case A

Case A is a successful business. It is working in the software sector. It was established in 1990 and has been growing steadily since then. It was a spinoff company formed by two young engineers in cooperation with their former employer. They soon entered to a really

"We, like everybody else, did not know what it [the collapse] meant. We considered our position just as uncertain and complex like the whole economy of Iceland. It was not in our hands. "

Interviewee A

narrow market with a very unique product. After being on the market with their first product for a short time they noticed a new opportunity on the market. They reacted upon this newly discovered need and developed new software in order to fulfill the need. The year 1994 became a turning point for the firm. This new software has been in development ever since then and today it is the firm's only product.

The interviewee himself has been related to the business since 2003, when he became part of the leading team and became the board's chairman. He became manager in 2012, when one of the founding entrepreneurs moved abroad to lead the firms second subsidiary.

Ever since the establishment the firm has been able to sell their product. They did not use much time in developing the business idea, they just did what had to be done to make the business successful. They therefore see themselves as a firm in growth from start. Figure 7-3 shows where they considered themselves to be situated in the entrepreneurial process at the time of collapse and again today. Around the collapse a contractions on the domestic market did

Case A
Growth

Case B
Same

Case C
New name

Case D
Bankruptcy

affected the firm's income, and they were forced to seek new markets. Since then their income has quadrupled.



Figure 7-3: Case A - Process Model

Business plan, vision and mission

At the beginning (in 1990) the firm did not have any formal plan, vision or mission. The entrepreneurs started the firm because they consider themselves to know the market well. When they discovered a new need on the market they sought for a grant to develop the new idea. To get this innovation grant they had to hand in a business plan. They received support in making the plan, but did not use it to further develop their business. The plan was renewed in 1998, in order to seek funding. After that no business plan was made until 2009, when they were seeking further funding. At that point they made the business plan in great details and have been using as a support since then. As can be seen in Figure 7-4, no formal vision was made for the company. It was first in 2004 the first vision was made. The missions has since then been updated every 5 years in cooperation with the employees. The plans have not all worked out in as hoped. However, this strategy has been helping them and they do consider it easier to respond to the unexpected when they know where they are going. They do also consider it a success to include the employees into the process. This has encouraged their employees to be ambitious in their work and they feel like a part of the firms development.

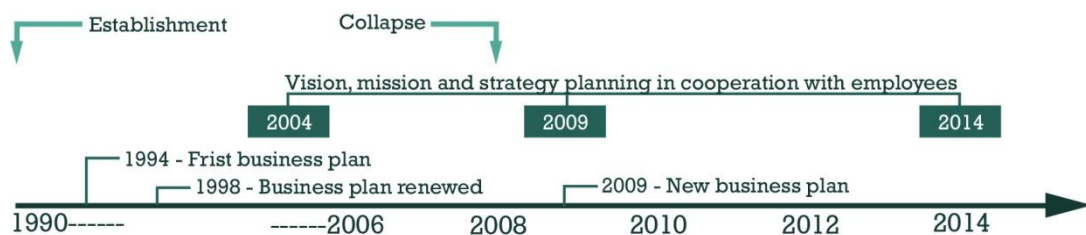


Figure 7-4: Case A - Business Planning

History of funding

The firm was originally founded with the entrepreneurs own capital. Both the entrepreneurs and their employer set money into the business to begin with. Ever since then they have been able to run the company on their own income. As shown in Figure 7-5, the firm received a grant for research and development in 1994. Again in 1998 an Icelandic innovation fund, invested in their firm and became a shareholder. They are still shareholders today and the partnership has been successful. In 2009 the firm needed capital to be able to reach foreign markets on a higher scale. They sought for new investors and another Icelandic innovations fund invested in the firm. The innovation fund got interested to invest right away. The entrepreneurs believed that it was

Case A
Growth

Case B
Same

Case C
New name

Case D
Bankruptcy

because the firm wanted to get capital into the country, instead of out. The investors have been vital for the company's growth, and they would not be succeeding as good today without their investments.

Aside from those two main investors the firm has been receiving smaller investments over the years. They have a few times been in the need for money, but always been able to find investors to help.

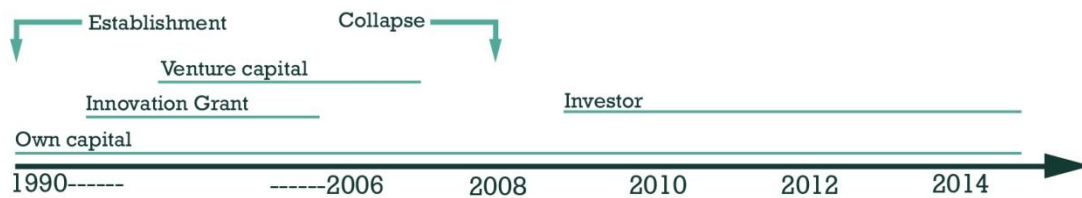


Figure 7-5: Case A - History of funding

Management

The firm's management has been stable over the years and has been working smoothly for the firm. Only two managers have been leading the firm from the start. This is illustrated in Figure 7-6. The second manager is the interviewee for this case. He has been involved to the firm since 2003 and was a part of the leading team until he became manager.

During the period of the crisis the two managers worked closely together. They have been leading the firm together since 2003 and their goal was to run the company debt free. This was against the societal aspect of that time. The years before the collapse there was little interest in running a business in the most efficient way possible. The focus was on buying and selling stocks to make a quick growth, and nobody understood why they ran their business that way. Because of that view there were several of disagreements between board members, but they continued with the debt free strategy.

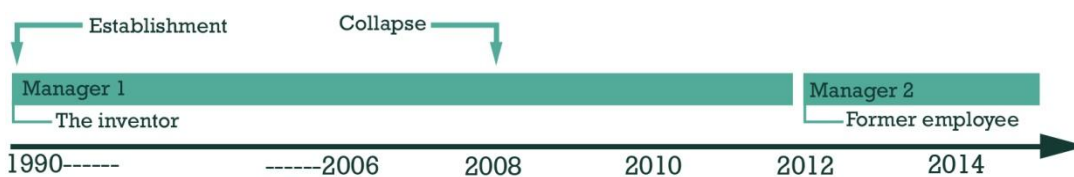


Figure 7-6: Case A - History of managers

Due to their debt free strategy the collapse did not have a major effect on the firm. As can be seen in Figure 7-7 they estimated the uncertainty to be on level 1, during and after the collapse. They did not estimate the environment to be more uncertain than the whole economy of Iceland. They knew if Iceland would go bankrupted they would too, but until then they could continue with their strategies. It was therefore an informed decision not to change anything.

Case A
Growth

Case B
Same

Case C
New name

Case D
Bankruptcy

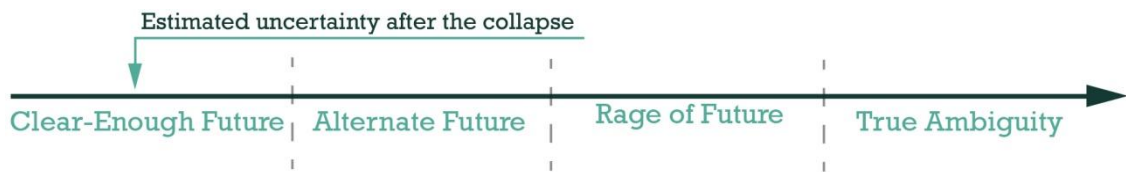


Figure 7-7: Case A - Estimation of Uncertainty

At this time 90% of their income was from the domestic market. The contraction therefore affected their income. They made few detail changes of their sale and service contracts to keep their domestic customers but no major changes were made otherwise.

Their mission had been for a long time to go abroad with their product on a higher scale. The collapse prompted them to hurry this process and pushed them forward. Soon after the collapse they set their focus on finding new investor to be able to market themselves in other countries. This was successful. They found a new investor and were able to go abroad on a higher scale than before. Today their income is 70% from foreign markets and 30% from the domestic market and their income increased greatly.

Results

Case A was chosen because of its great success. In Figure 7-8 the firm's development can be seen over periods of time. Their most uncertain and complex period were the times before the collapse. This turbulence was mainly due to small interests from investors at the time, but it never became so bad that they were close to bankruptcy or not able to grow.

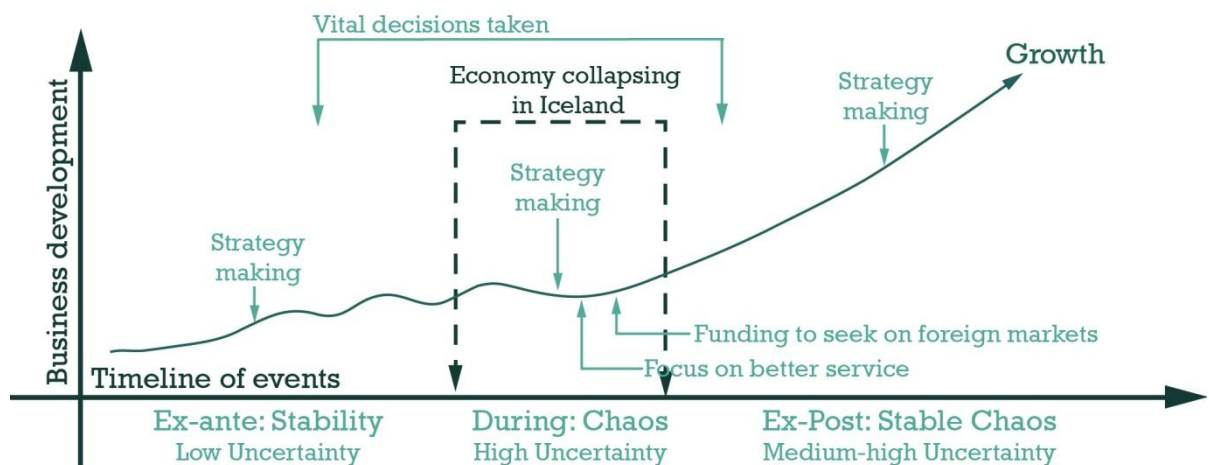


Figure 7-8: Case A - Development

Case A Growth
Case B Same
Case C New name
Case D Bankruptcy

Surprisingly, they did not consider the collapse to have a major affect on the firm. On the other hand, the collapse and the contraction on the domestic market encouraged them to act faster in their missions to go abroad.

After the collapse they set their focus on foreign markets. They decided to focus on their current product and provide better service to be able to seek abroad. In Figure 7-9, the firm's countermeasures can be seen.



Figure 7-9: Case A – Countermeasures

Their strategy resulted in a debt free firm when the collapse happened, and the collapse was therefore not as destructive as expected.

7.2.2 Case B

Case B was established in 1996 by the inventor. The inventor was a farmer and his core idea was to make something that could reduce the use of fuel in his farm. Now, two decades later, the firm is still developing the product. At first, their aim was to use their product in cars, but soon they found out that their product would be a better fit for small engines e.g. motorcycles, lawn mowers and other small fuel driven equipments. When the interview is taken they are about to launch their first product to the aftermarket.

"Maybe because this [entrepreneurship] is struggle all the time, we did not mark the change during the crisis. We just had to find little more money than usual."

Interviewee B

The interviewee has been with the firm since 2006. He was first hired as a marketing expert, but the product was not ready for marketing so he was working across the firm in various projects. He became the manager in 2011 and has led the firm ever since.

Unfortunately they have been struggling with the product development. The interviewee describes their process as continuing struggle, and when they think they are getting somewhere they realize that's not the case after all. In Figure 7-10 their estimation of a process development is shown, from the collapse until today.

Case A
Growth

Case B
Same

Case C
New name

Case D
Bankruptcy



Figure 7-10: Case B - Process Model

Business plan, vision and mission

Over the years the company's vision has not changed. Their focus from the start was to reduce fuel in order to minimize pollution and save money. On the other hand there has not been a high focus on creating mile stones or planning the business in other ways. This can be seen in Figure 7-11, were there been made formal business plans two times. Both times were in order to seek grants and further funding. The interviewee does not consider a formal business planning to be effective. He states that business plan in a company that has no product on the market is a pure fiction. Even though the firm has not been using a formal business plan, they did have informal business plans. The goal has been seeking money in order to develop a product to launch on the market.



Figure 7-11: Case B - Business Planning

History of funding

Throughout the years there has been a struggle to locate capital to continue the development. This struggle has been the firm's largest obstacle. The lack of capital has set its mark on the development process, were it has often been difficult to move forward. In Figure 7-12 their process of funding is illustrated.

Development speed has been increased two times when they were able to create a partnership with two different producers. Two other vital moments were when they got a venture capital, first from an official innovation fund and later on from a private investor.

Case A
Growth

Case B
Same

Case C
New name

Case D
Bankruptcy

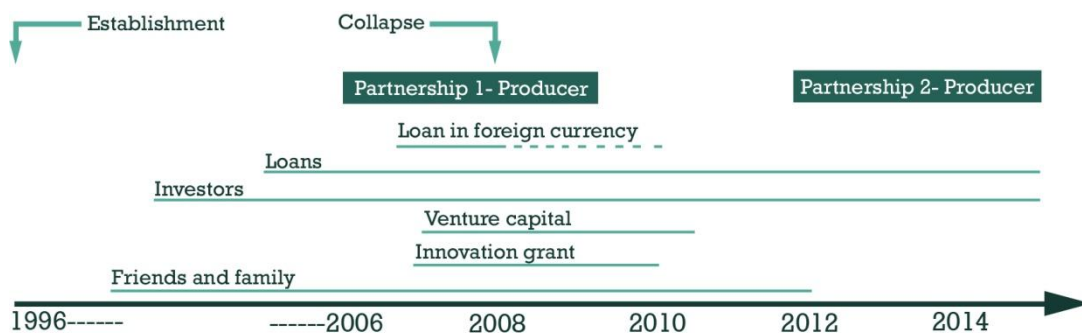


Figure 7-12: Case B - History of funding

Aside from the two partnerships and the venture capital, the firm has received smaller amounts from other investors. They have tried to run the business on this capital but they have often been forced to take loans to proceed. In the prelude to the collapse the firm got a bank loan in a foreign currency. At the time the Icelandic currency was strong so the payments were favorable. After the collapse this greatly affected the firm. The Icelandic currency fell and the loan got 6-7 times higher. This did almost cost the firm a bankruptcy, but they were able to negotiate with the bank.

Management

The management in the firm has been rather unstable since late 2006. When the first venture capital was received the fund had requirements regarding the management. Aside from having a board member they requested to replace the manager, which at the point was the inventor himself. From that point on, few different managers have led the firm. This has affected the firm's process. The history of managers is illustrated in Figure 7-13.

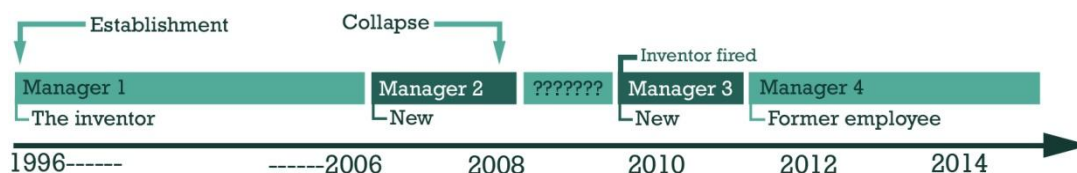


Figure 7-13: Case B - History of managers

The manager illustrated number two in the model, was a person chosen by the first investor (the innovation fund). He was new to the firm and did not know anything about it or its product. He had never worked in an entrepreneurial firm before and was not willing to sacrifice anything for the firm's success. He gave up and quit. After that, and for almost a year, the firm did not have any formal manager. The inventor himself, along with other employees tried to do their best to keep the firm alive. In 2010, another funding was received to save the business. Again were there set requirements to have a new manager. This manager is illustrated as manager number 3 in the figure. He was also new to this business but the board considered him to be the firm's savior. His first job was to fire the inventor with all his knowledge, along with other key employees. He spent the investor's money without any progress in the products development. After one of the board meetings he did not show up again. He left the firm in great debt and with no income in sight.

Case A
Growth

Case B
Same

Case C
New name

Case D
Bankruptcy

One of the fired employees was hired again to the firm and took on a role as the manager. He is still running the business and is the interviewee.

The inventor himself had gotten a new job at the time, but did come back later. When the inventor came back, they were able to find more money, negotiate debts and continue their development.

Because of the constant struggle in the business, the firm did not notice the chaos around the crisis on a high scale. They did not consider the level of uncertainty to increase, and did therefore estimate the future to be clear enough. Their estimation of uncertainty can be seen in Figure 7-14. After the collapse it became more difficult to find investors and all foreign expenses became higher. They did not experience any dramatic situation that they had to react to.

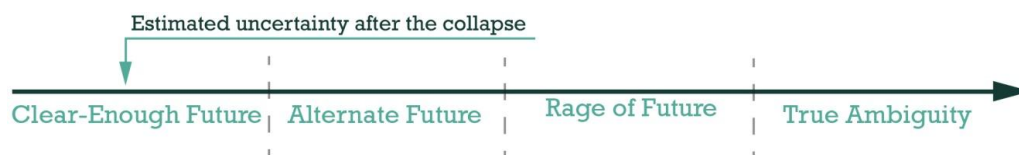


Figure 7-14: Case B - Estimation of uncertainty

Results

Case B was chosen because they have neither experienced growth nor decline. They have been struggling to stay alive throughout the firm's lifetime to develop their product, but have not launched it yet. As shown in Figure 7-15, there were some periods more difficult than others.

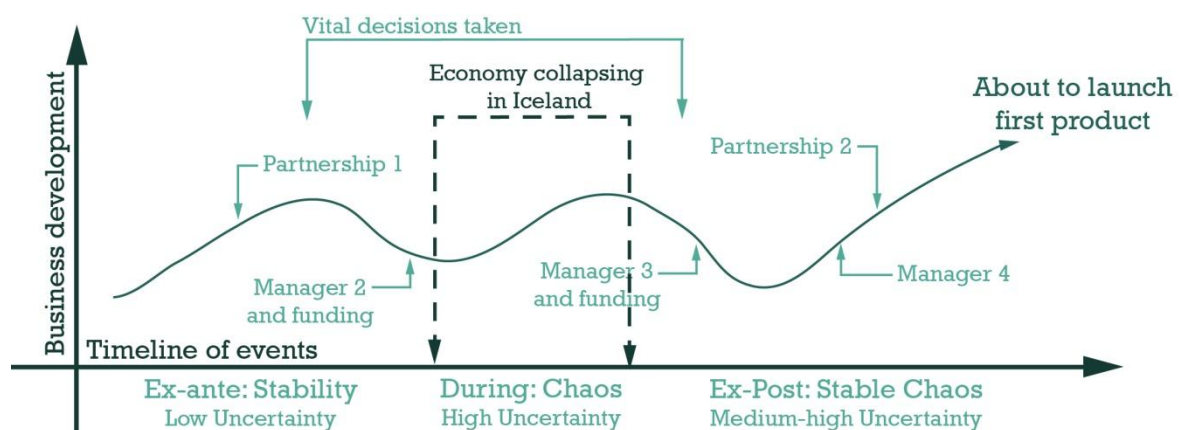


Figure 7-15: Case B – Development

Case A	Growth
Case B	Same
Case C	New name
Case D	Bankruptcy

The hardest struggle for the firm was to find capital to continue were they did not have any income. They were therefore dependant on capital from others. The constant change of managers in the firm did resulted in a loose strategy, were each manager wanted to go his own way.

They did not notice any changes during and after the collapse, and therefore estimated the future to be clear. As can be seen in Figure 7-16 they did not have any countermeasures to the collapse.

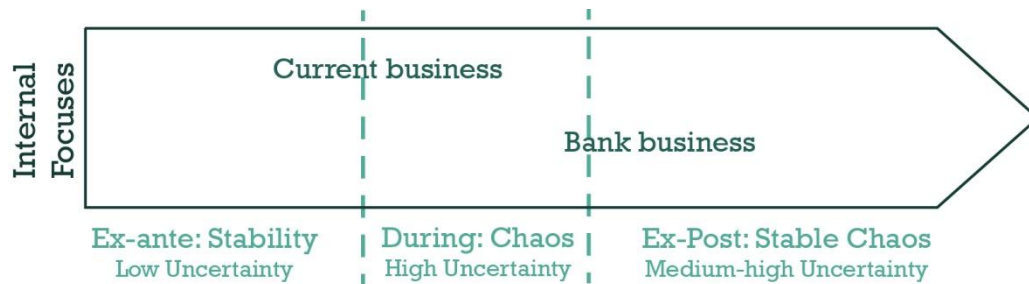


Figure 7-16: Case B – Countermeasures

Because of constant disapproval between board members, constant change of management and lack of money, the product development has been slower than expected.

7.2.3 Case C

The firm was established in 1997, but the technology has been used since 1972. The technology was developed to increase the efficiency of the fishing industry by the interviewee and another entrepreneur. In the year 1997, the interviewee further developed their product for other sectors, and established the firm as it is today. In 2007, the firm went bankrupt but was reestablished right away under new ID and new name.

"I choose to believe that every change is a new opportunity. I have survived through all this by staying positive. The only way is to continue and head forward, no matter what."

Interviewee C

The interviewee is the entrepreneur behind the adventure and has been, and still is, the manager of the firm.

From the very start the business has been able to sell its product. They have been able to develop it in cooperation with their customers. As shown in Figure 7-17 the interviewee does not consider the firm to be further in the entrepreneurial process then it was at the time of collapse.

Case A
Growth

Case B
Same

Case C
New name

Case D
Bankruptcy



Figure 7-17: Case C - Process Model

Business plan, vision and mission

There has not been made any business plan or been created a vision or a mission for the firm. The manager has made plans for himself over the years but nothing formal. He has never applied for funding or grants, so he has never felt the need for a formal plan. Because the firm was mostly operating in the domestic market, the contractions affected their income. After the collapse a formal strategy planning was made. The plan was to keep the current customers and how to find new ones. As shown in Figure 7-18 a plan was made right after the collapse, but has faded away over time. The interviewee states that planning is not made to follow directly, but more as a guideline during rough seas.



Figure 7-18: Case C - Business Planning

Funding

Even though the firm has got some income from the beginning, the finance has been a struggle. The firm has not received any funding or grants. The whole process has been covered by sales and bank loans. The loans have been small steady amounts over a period of time. By declaring the firm bankrupt helped them to remove debt, and they were able to make a fresh start under a new ID. This is illustrated in Figure 7-19. Over the years and before the bankruptcy the manager tried to find some investors but has never succeeded.

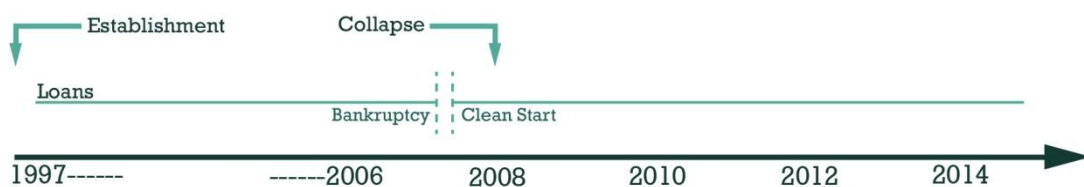


Figure 7-19: Case C - History of funding

- Case A
Growth
- Case B
Same
- Case C
New name
- Case D
Bankruptcy

Management

As illustrated in Figure 7-20 there has been only one manager from the establishment of the firm. The management has therefore been stable from start. Keeping the company successful has been a struggle, but the interviewee stated that all of the small victories are the things that keep him going.



Figure 7-20: Case C - History of managers

The year before the collapse, in 2007, was especially hard for the firm. It was hard to sell a product that focused on increasing business efficiency. The market had their focus on the financial sector and was not interested in reducing costs. It was too easy to gain money by investment so the amounts that could be saved by using their products seemed small in comparison. As mentioned before, banks and investors were not interested in entrepreneurship. The manager therefore found it impossible to locate financial support. A bankruptcy and a new ID seemed the only way to move forward.

A year after the firm got a new ID, the collapse happened. The contraction on the domestic market had a great influence on the firm. Almost all of the firm's customers were in Iceland. The manager found the situation rather uncertain and complex at the time, and estimated the uncertainty to be on level 2, as can be seen in Figure 7-21. Each scenario could have a different outcome, but not in scale that he was not able to predict the future and make decisions.

First he tried to follow the strategy made to find new customers in Iceland. This turned out to be hopeless, so he changed his strategy into seeking abroad. This decision was a success. Everything is taking longer time than expected but the firm is now in slow growth.



Figure 7-21: Case C - Estimation of uncertainty

Results

Case C was chosen because the firm went bankrupt in 2007, but was reestablished under new ID right away. When the debts became too high for the income to cover it, all the sale contracts were move over to the new ID and the old ID was declared bankrupt. That is how the firm was

Case A
Growth

Case B
Same

Case C
New name

Case D
Bankruptcy

able to start fresh and was able to use their income on projects that had been neglected for long time. The firm's development can be seen in Figure 7-22.

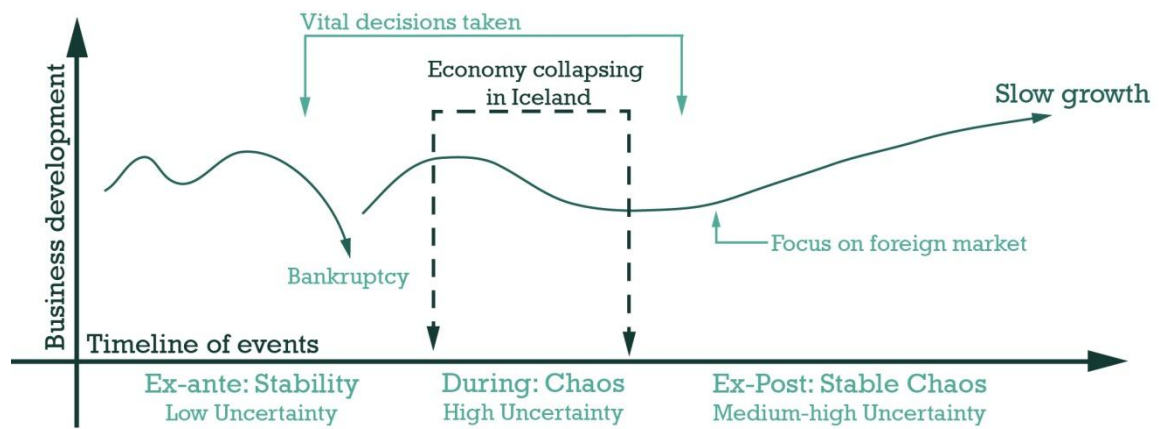


Figure 7-22: Case C - Development

There has only been one manager from the establishment of the firm, and has the process been highly dependent on him. No formal business and strategies plans have been made, but several informal plans have been made. Therefore was there nothing to lean on, when business was bad. As shown in Figure 7-23, there were no countermeasures taken during the collapse.



Figure 7-23: Case C – Countermeasures

The business finally began to grow after the turbulent times, when they aimed at foreign markets long after the collapse.

7.2.4 Case D

The firm was established in the year 2000. It was established by three friends. The aim was to develop hardware in order to reduce the number of car accidents along with a reduction in fuel consumption. Soon after they got the idea, they found an enterprise that was willing to

“Investors are prone to set up requirements when they invest. Sometimes those requirements cost too much and are too heavy for small firm like ours. This was our breaking point.”

Interviewee D

cooperate with them on a project in order to develop it. Only two weeks after the project started, it became a business and the enterprise wanted them to install the hardware in every car they had. Unfortunately the firm went bankrupt in 2011.

The interviewee is one of the founding entrepreneurs. He was involved in the leading team during the whole time, but was not the manager during all of the years.

The product started to create a value for the firm right away. It was in constant development and the product was getting better all the time. The firm had not been seeking for new markets or developing new products, because it was doing fine. As illustrated in Figure 7-24 the firm did not go further in its development process, from the collapse until it went bankrupt.



Figure 7-24: Case D - Process model

Business plan, vision and mission

When the three entrepreneurs started their adventure, they had a clear vision of what they wanted to accomplish. They set their vision and made a business plan to seek investors. They succeeded in working towards their vision by following their plan, with few trials and errors. The business plan was then renewed to seek new investors. When a new investor came into the firm the vision subsided. The focus went from creating something positive for society into making money. As the interviewee stated, *they were no longer creating a good product, they were selling their skills and service to make money. The heart was no longer there.* Their business was mostly in Iceland, and the contraction in the domestic market affected their income. A new and more detailed business plan and strategy was made after the collapse. This worked fine and the firm was back on track, with less debt and higher income. Nevertheless, the majority of the board accepted that one of the shareholders, owning 30% of the firm, could buy all of their sale contracts. Once all contracts were lost, the firm lost their stable income and soon became bankrupt.

Case A
Growth

Case B
Same

Case C
New name

Case D
Bankruptcy

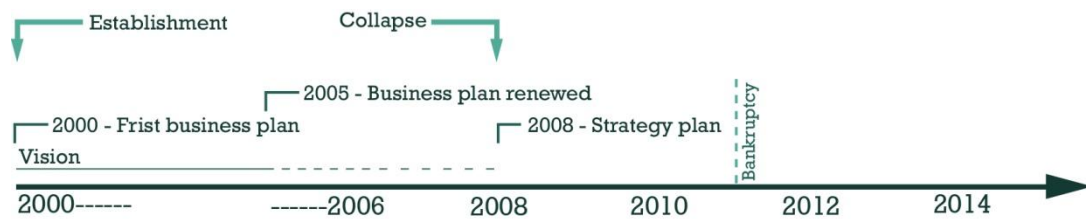


Figure 7-25: Case D - Business planning

Funding

The firm was established in 2000 by funding from private investors. The shares were around 50/50 between the entrepreneurs and the investors. By selling the product and making a service contract the firm was able to run by itself. Even though they could run by themselves they sometimes needed extra money for further development for their product. Around 2005, an investor invested in the firm and got a total ownership of 30%. This was a turning point for the firm. As shown in Figure 7-26, the new investor saw an opportunity in pledging the firm's sale contracts. The contracts were pledged for loans in foreign currency to buy shares in other firms. In the prelude to the collapse, this was considered to be a good way to make fast money. This came greatly down on the firm once the Icelandic currency fell after the collapse in 2008.



Figure 7-26: Case D - History of funding

Management

The management in the firm has been rather stable during the years. When the first venture capital was received the investor had requirements about the management. He requested to hire a new outside manager, as illustrated in Figure 7-27. The new manager started soon after the funding was received in 2005, and was completely new to the business. He did not know the product and his focus was on maximizing the revenue instead of providing a good product.



Figure 7-27: Case D - History of managers

The new manager started to pledge the sale contracts, for loans in foreign currencies, soon after he started. Soon after the collapse he quit and the inventor became a manager once again. When he took over, the firm was pledged for around 130% of a year turnover.

During the collapse the leading team estimated the level of uncertainty and complexity to be rather high. As shown in Figure 7-28 the uncertainty was estimated to be on level 3. They estimated the environment to so that unstable that they were not able to make any plans. They did therefore not follow any business plan during that time which resulted in suitability management. Decisions that were made were in no relations with the reality and were suited to the managers need at each time.



Figure 7-28: Case D - Estimation of uncertainty

Once the inventor became a manager again, the focus was set on finding new customers in order to pay the debts. Their aim was still on the domestic market but they had to change their business model. After the collapse, many firms preferred to own the product instead of renting it, in order to minimize their fixed payments. They were forced to change their business model, and instead of renting equipment with service included, they sold the equipment and made service agreements. With that, the manger was able to downgrade their debts. By the time of bankruptcy; their debts were only 48% of the year turnover.

After the collapse, there was a high disagreement between shareholders which affected the firm's development. After several conflicts the board's majority approved that one of the shareholder could buy their entire sales and service contracts for himself, on 10 months subscription. By those he was able to pay for the contracts by using the income the contracts provided him.

Result

Case D was chosen because it went bankrupt within few years after the collapse. The new managers, with acceptance from the majority of the board, decided to pledge what they were able to pledge, to take bank loans in foreign currency. This was difficult for the firm and once the Icelandic kroner started to fall, it nearly bankrupted the company. Soon after the collapse, the previous manager and one of the founders took over the management again. He was able to get the firm back on track, slowly but steadily. As can be seen in Figure 7-29 this resulted in a bankruptcy soon after.

Case A
Growth

Case B
Same

Case C
New name

Case D
Bankruptcy

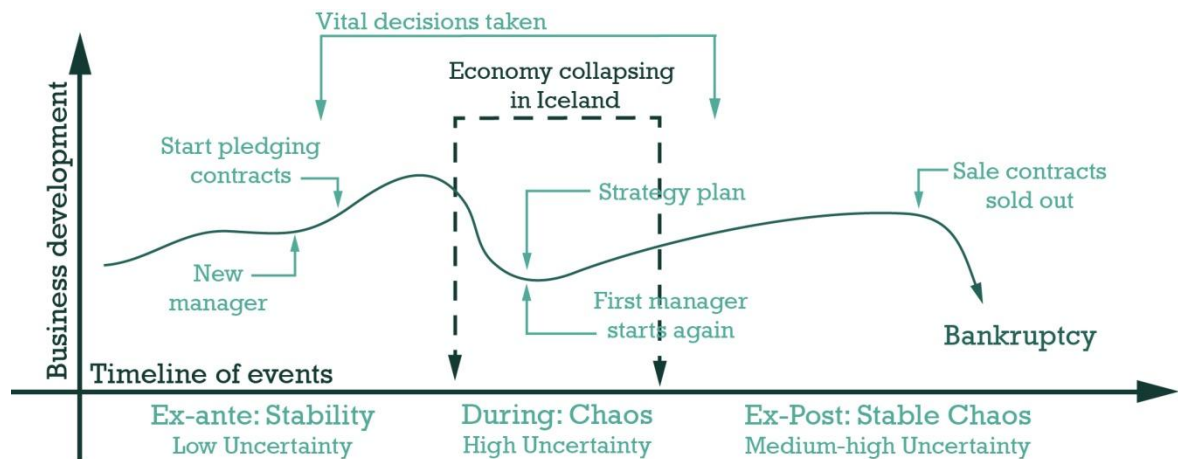


Figure 7-29: Case D - Development

From the beginning there was not much of a business planning. Even though the vision was clear from the start, there was no plan on how to fulfill it. The only formal business plans made were in order to receive funding. As can be seen in Figure 7-30, it was first after the collapse that they rethought their strategy and followed it. They did their strategy planning in order to find new customers, but it was first when their situation was gone out of hand. There were otherwise no countermeasures taken towards the effects from the collapse.



Figure 7-30: Case D - Countermeasures

Even if this did work for them and the business was recovering after the setback, it was not enough to settle the disagreement between shareholders. The disagreement between them resulted in bankruptcy in 2011.

Case A Growth
Case B Same
Case C New name
Case D Bankruptcy

7.3 Cross Case Analysis and Proposition Development

In this section the studied cases will be compared to each other, to see if firms in growth operated in any way differently than those who are not. Figure 7-31 illustrates a graph over all of the firms' development. It is to be noticed that in all of the cases the turbulence began before the collapse. This supports previous findings in that the crisis started during the prelude to the collapse, for those KIE firms in Iceland, but not afterwards as expected.

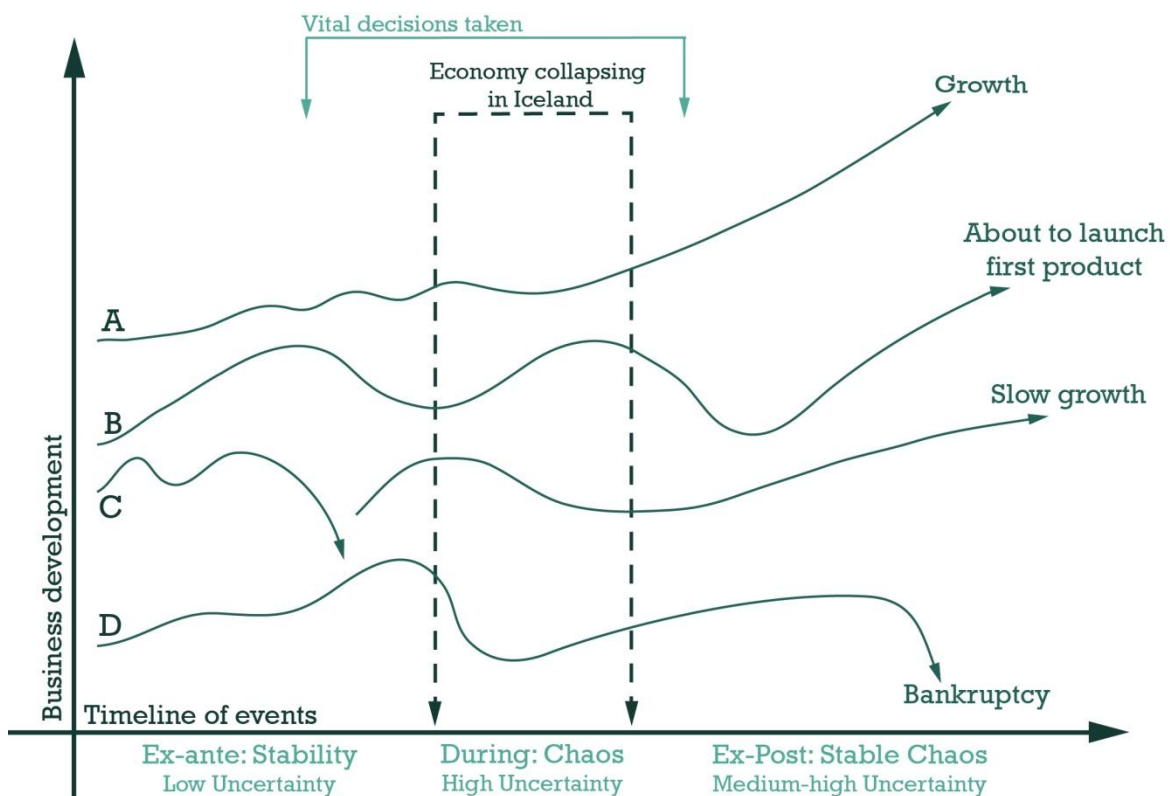


Figure 7-31: Case A-D development

Their turbulences are caused by different factors, and the size of the fluctuations varies. What was causing the turbulence and what leader were doing about it, will be further analyzed. There are six propositions introduced. These propositions will be further explained in chapter 9 – *Lesson to be learned*.

These topics will be analyzed in following order.

- Business Planning
- Funding
- Uncertainty and complexity
- Process development
- Management
- Countermeasures

7.3.1 Business planning

In the first analysis, the results indicated that making of a business plan, a vision and a mission were not vital in each firms' fate. Figure 7-32 shows how and when in the process each case did any kind of a business plan. It is interesting to see that the only firm that did plan the business systematically by making a vision, a mission and a strategy plan in cooperation with their employees, is the only firm that is in high growth. It is also to be noticed that case C and D, did not have any formal business plan, apart from the business plan that case D made to seek funding soon after their establishment. In these two cases, they only made a strategy plan when things had already gone bad. In the same model it can be seen that leaders only made business plan in order to seek funding. This indicates that the use of a business plan, and in some cases a strategy plan, is not to plan their business. This is only used as an attempt to save the firm by trying new ways to operate or to convince investors of a good investment.

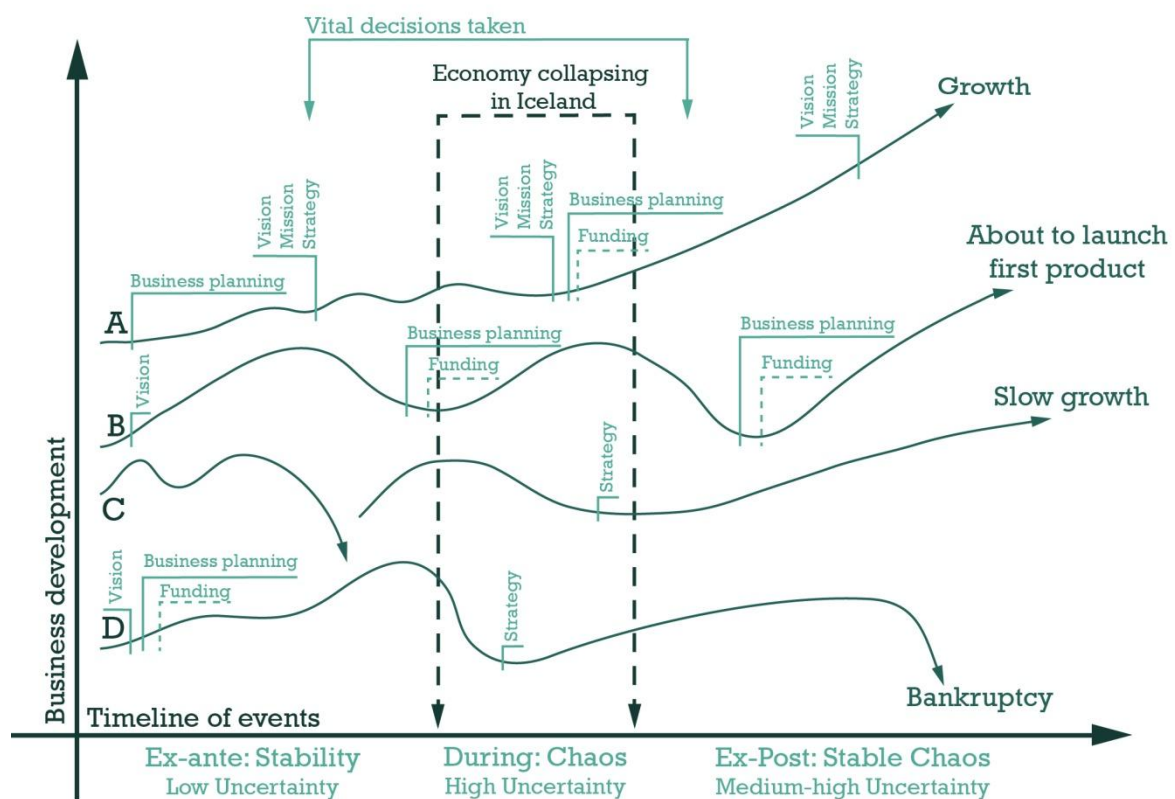


Figure 7-32: Case A-D - Business Planning

7.3.2 Funding

It varies between cases how and where they received capital from, in order to proceed with their business. Some were able to sell their products from the very start, while others had to operate on financial support from investors or other funding options for years. In Figure 7-33, it is shown how each case received their funding. Case B is the only case that has not launched its product, and is therefore the only case that has not had any income yet.

Case A is the only case that has received any bank loans. All of the other cases did take loans, both in Icelandic currency and in foreign currency. It became difficult for those who did take loan in foreign currency when the Icelandic currency fell right after the collapse. In the economic expansion before the collapse, when the Icelandic currency was extremely strong, it was considered a wise decision to take loans in other currencies. It was believed that the Icelandic currency would only get stronger. This leads to the first proposition.

Proposition 1: Loans should be in the same currency as the company's income.

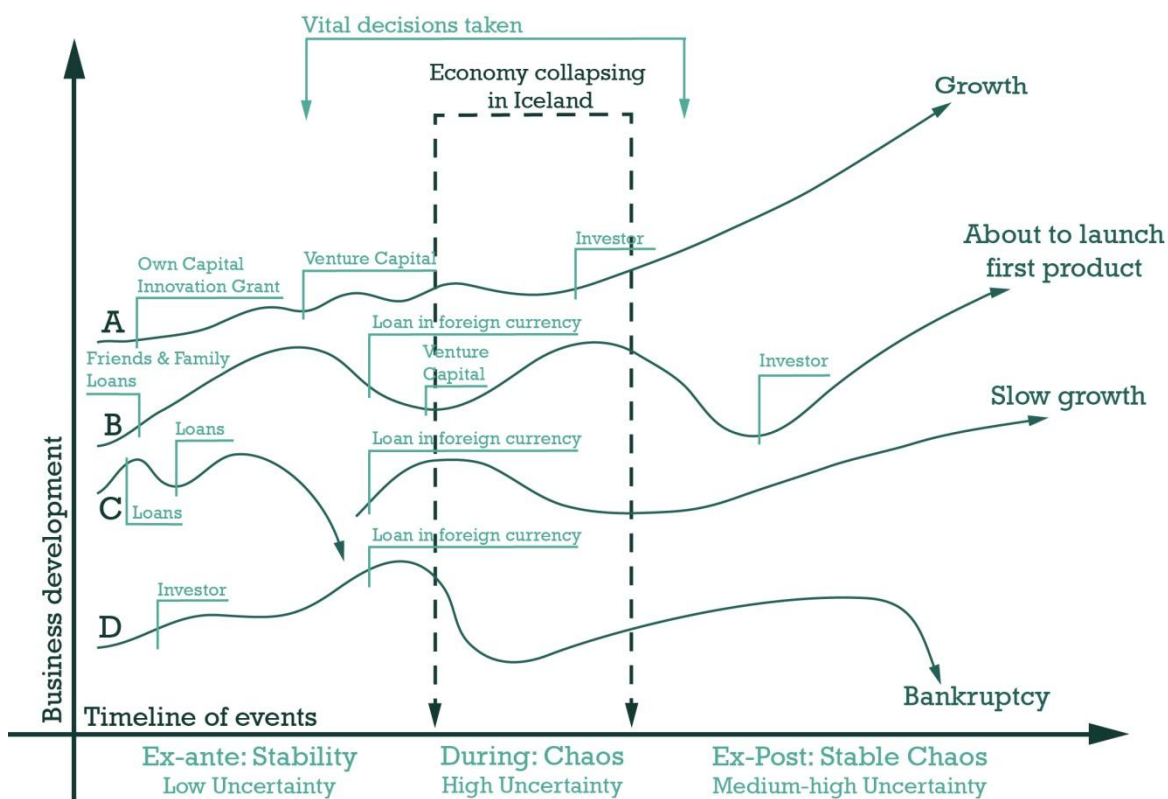


Figure 7-33: Case A-D – Funding

7.3.3 Uncertainty and Complexity

How leaders experienced the collapse and the chaotic time afterwards varied. As can be seen in Figure 7-34, case A and B did not consider the uncertainty factor to be higher than usual, while C and D did.

Case A was the only case that took an informed decision of how to deal with the consequence of the collapse. They did not estimate their environment to be more uncertain and complex than the whole economy of Iceland. They could foresee some contractions on the domestic market and therefore set

their focus on foreign markets. Case B did not notice any large changes from the collapse, and therefore did not consider the environment to be more uncertain than they were used to. They did not take informed decisions to keep their strategies, they just did.

Case C and D considered the environment to become more uncertain and after the economic collapse. Both cases were highly dependent on income from the domestic market and had loans in foreign currencies. Because their survival was highly dependent on those factors they considered the future to be uncertain. Case C considered future to have alternate outcomes while case D, did estimate the future to have a range of possible outcome. They were not able to predict what was going to happen. In those two cases the managers considered the environment so unstable that the only way to run the company was on month to month basis. They considered it not to be possible to plan the business for a longer period of time.

Proposition 2: At a time of crisis, it is important to have a flexible strategy.

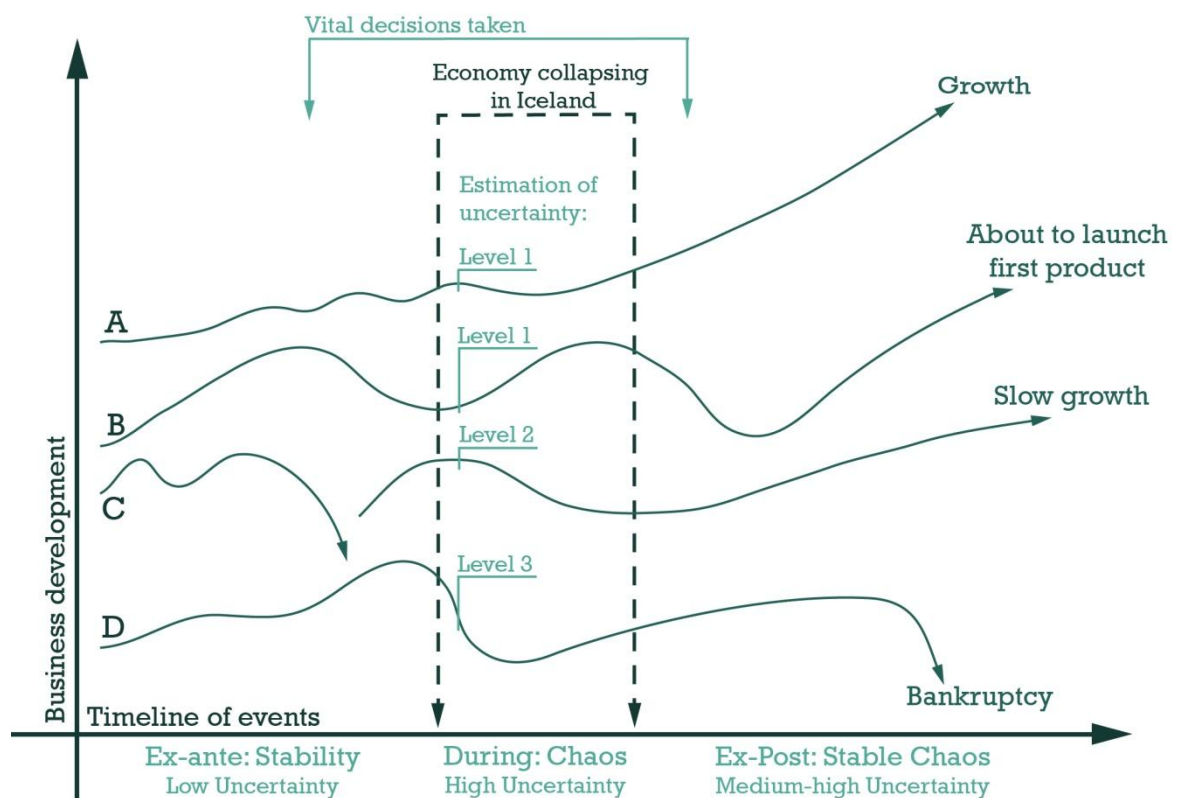


Figure 7-34: Case A-D - Estimation of uncertainty

7.3.4 Entrepreneurial Process

Shown in Figure 7-35, is how cases A and B have developed further than C and D. This is what the interviewees consider the firm to have grown from the time of collapse until the interview was taken (case D, until it went bankrupt). What is interesting to see, is that in both case A and B, the leaders did not consider the level of uncertainty and complexity to be high, at least not higher than usual. Both case C and D considered it to be higher than usual and had hard time figuring out how to deal with the situation. This resulted in stagnation for them.

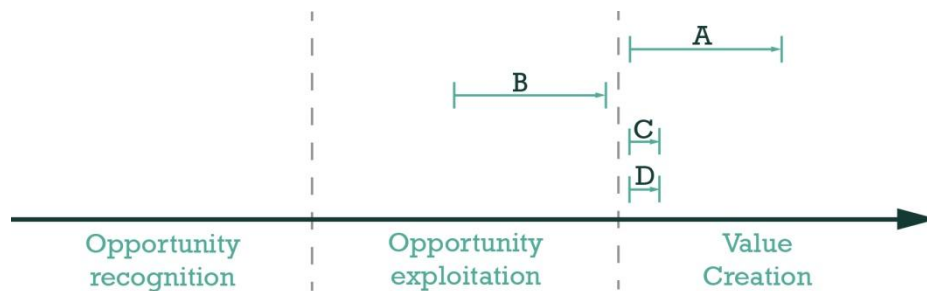


Figure 7-35: Case A-D – Process

7.3.5 Management

A closer look at the firms' history of managers, shown in Figure 7-36: Case A-D - History of managers it can be seen that case B and D did have an unstable management. Case A and C did on the other hand have a coalesce management. In case B and D changing a manager was a requirement from investors. In both cases there were hired managers that were not related to the business. All new managers had a negative impact on the firms' development. In case B the managers did slow down the development process, and took decisions that were not in the firm's best interest, because they had no personal interest in the firm. In case D, the manager operated after the investors ideas. This was against the founders ideas, and created a detached management. This does indicate two things:

Proposition 3: If the external environment is unstable, an aligned strategy across the firm is important.

Proposition 4: A change of management during a time of crisis is not recommended.

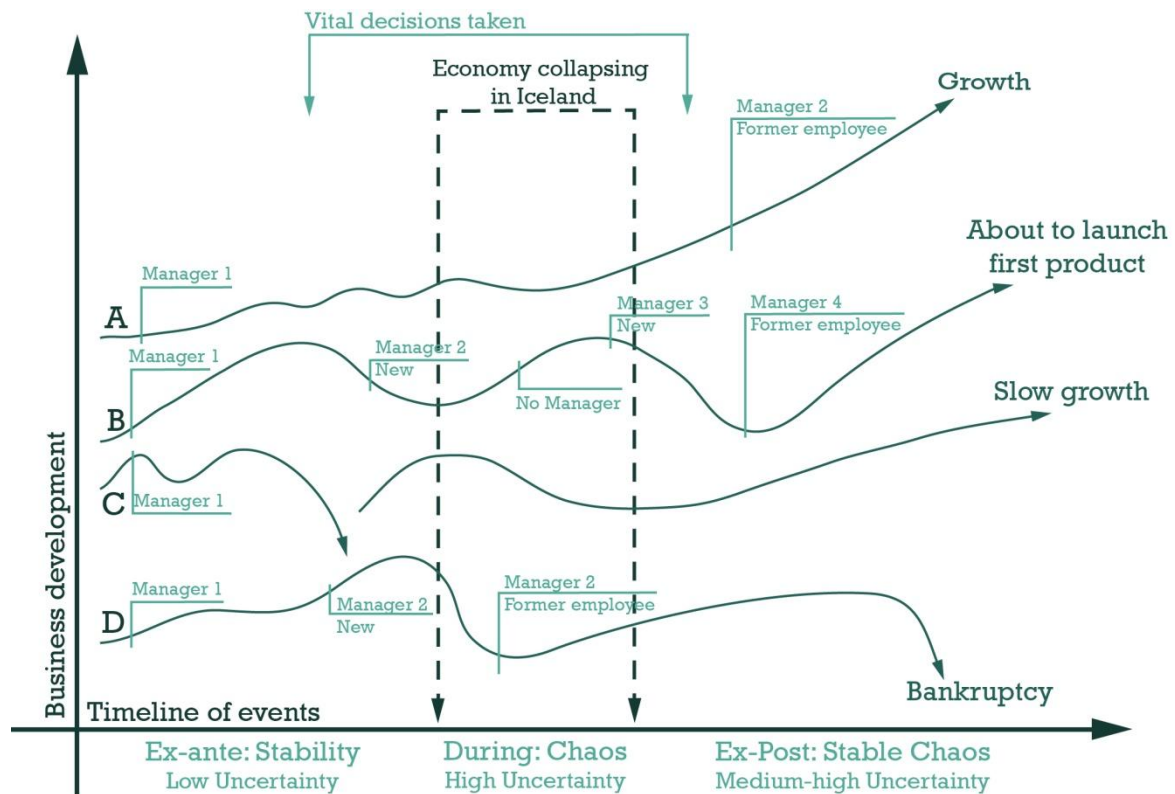


Figure 7-36: Case A-D - History of managers

7.3.6 Countermeasures

The cases countermeasures are gathered in Figure 7-37.

As mentioned in the previous section, case A was the only case that took an informed decision as how to deal with the collapse. Their opinion was that the collapse did not make the environment more uncertain and complex, but could lead to contraction on the domestic market. Their first reaction was to focus on their current business and change their service contracts, in order to keep their domestic customers. By that, they would make it easier for their customer to reduce their cost, but still have the same service level than before. By this they could also stabilize their monthly income. Their next reaction was to focus on the foreign market. They did seek for funding specifically to do so, which in turn resulted in high growth.

All of the cases have in common that they did focus on their current business. Plans about new products or new features in their current product was laid aside right after the collapse. The leaders could feel the contraction on the domestic market, and all their energy went into minimizing their loss.

Case C did come up with various strategies to find new customers on the domestic market, but that did not work as expected. It was first when the focus was changed to foreign market that they could see small growth.

Proposition 5: Seeking global markets is recommended in order to secure growth, especially in a time of economic crisis.

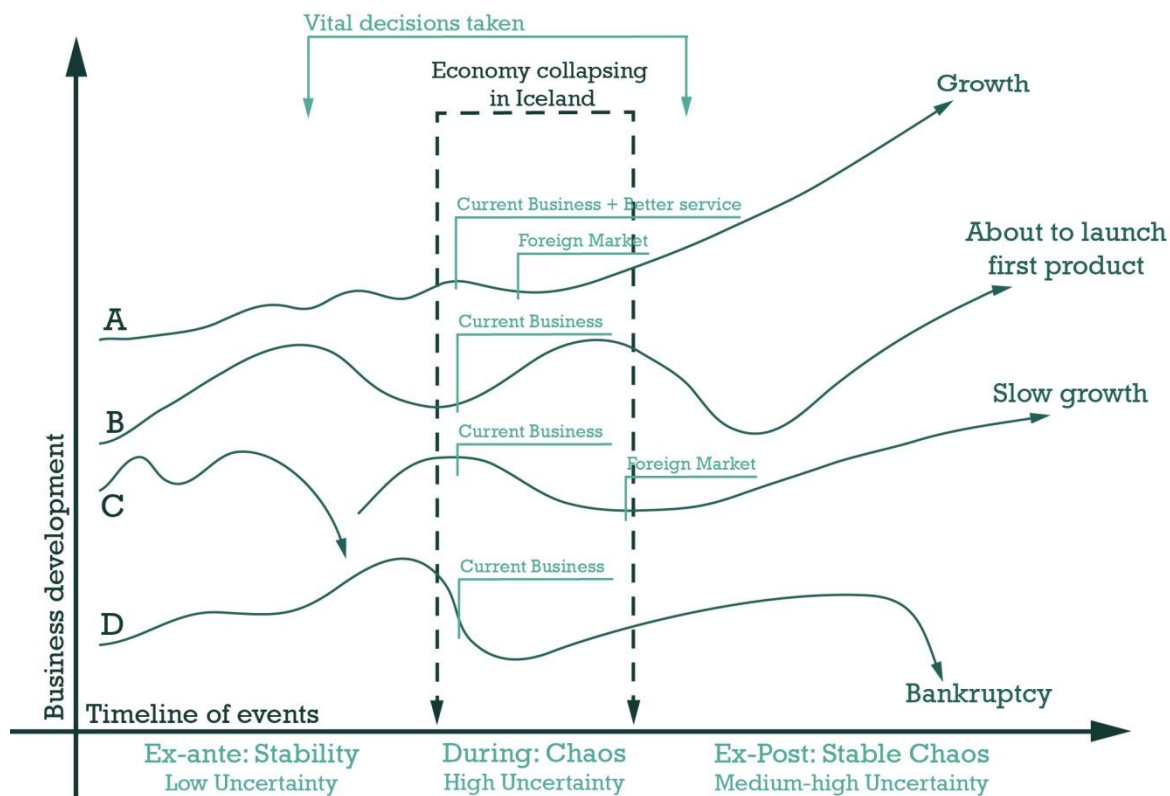


Figure 7-37: Case A-D - Reaction

7.4 Chapter Summary

The aim of the chapter was to take deeper look into four KIE firms that were operating at a time of crisis. This was in order to understand their management style during a chaotic and unstable time. The focus was how they estimated the environment at the time and how they managed accordingly. Four KIE firms' leaders were interviewed for this purpose. They were all interviewed after the same protocol, in order to have comparable results. The findings were thereafter compared in a cross case analysis. The four cases participated anonymously, which was in order to encourage them to be honest in their answering.

A research proposal was developed as is illustrated in Figure 7-1. It is assumed that the expanding economy along with the moral of society had even more effect on the firms, than the chaotic times that followed. Decisions made during turbulent times, turned out to be vital for the firms' development.

None of the cases estimated the level of uncertainty and complexity to be so high, that they were not able to make decisions. Case A and B considered the future being clear enough. Case C considered the future to have few possible outcomes. Case D estimated the future to have a range of possible outcomes. When looking into their history and countermeasures, one discovers that their estimation is in no relations with their reality. Comparing the cases development, it is apparent that those who estimated the level of uncertainty or complexity not to increase in the collapse are the same ones that moved forward in their entrepreneurial process.

Case A was the only case that decided to seek onto foreign market right away. They consider that decision to be vital for their future success. Case C, tried at first to rethink its strategy for the

domestic market. It was however first when they aimed for the foreign market, things started to improve.

The main findings resulted in the five propositions developed during the cross case analysis.

8 Discussion

This chapter introduces the research overall findings. The results will be discussed and compared to the theory. The knowledge from different analysis will be triangulated (see on page 26) in order to increase the results reliability and validation.

8.1 The times before the economic collapse

When analyzing gathered information from the three analyses the first thing to notice is that the prelude to the collapse was equally as difficult for the KIE firms as the collapse itself, if not even more so. In the overall analysis of KIE firms' destiny, it can be seen that the highest rate of bankruptcy among KIE firms, established before the collapse, was in the year 2007. This tells us that something was going on before the economic collapse, which was affecting the firms greatly. To find out what could have been causing this struggle a macro level analysis was conducted.

Aard Groen, Van der Veen and Wakkee consider there to be four main factors that are affecting entrepreneurship, as shown in Figure 8-1. During the prelude to the financial collapse in Iceland, two of those four factors (social capital and economic capital) were highly broken in the macro environment and were therefore affecting entrepreneurial firms from the outside-in.

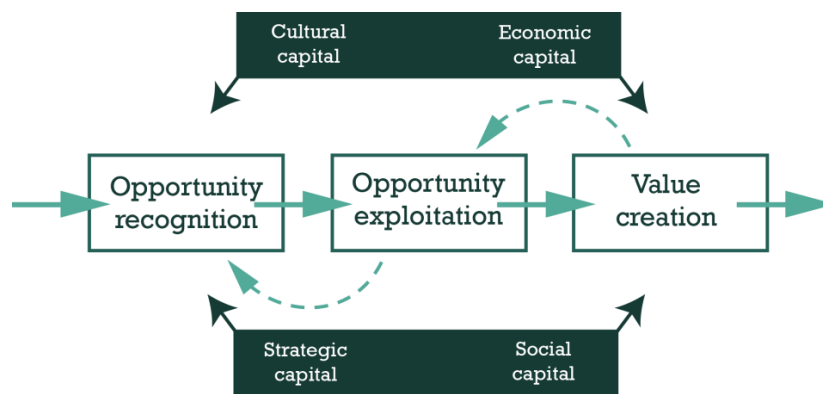


Figure 8-1: Entrepreneurial Process

Social capital

During the prelude to the collapse, the economy in Iceland was expanding rapidly. People were playing with money and there seemed to be a wealthy business man on every corner. The findings in the macro level analysis tell us that the society had the focus on the economic sector and everything else seemed to be forgotten. This resulted in that technology driven firms were not in the spotlight and did not receive the social support needed. There was no understanding of why someone would struggle to start a knowledge driven firm and becoming an entrepreneur when it was easy to get a well paid job within the banking sector. The negative social view towards entrepreneurship before the collapse is supported in the micro level analysis.

Economic capital

For those who were in need of capital during the prelude to the collapse had a really hard time finding it. The government had its mind elsewhere and did not provide any privileges for entrepreneurship or innovation. All official funding institutions were also empty. Private investors' views towards entrepreneurship were no exception. When turning to the private investors, the answer was either that

the entrepreneurs were asking for too small amounts or they thought the return of investment was too long compared to what they could get elsewhere. Entrepreneurs' only favorable option (with few exceptions) was to take out a bank loan in a foreign currency with high interest rates. These loans became a heavy burden for the firms when the currency fell after the collapse, especially for those who were relying on income from the domestic market. They were not aware of the threat that these loans would bring to them, and could therefore not react before it was too late.

After the collapse all of this changed. Over one night the society's morals changed from loving the financial sector into hating it. These dramatic changes in social view towards the financial sector were positive for entrepreneurship. Those two vital capitals (social and economic) were broken during the prelude to the collapse and became better and more supportive afterwards. The government set their focus on entrepreneurship and started to set aside capital into official innovation funds.

After the collapse the government did set up a domestic control. This did affect domestic investors, as their capital was grounded in Iceland. They became more willing, or forced, to invest in the domestic market. This was a new opportunity for firms in a need of funding.

It appears that the crisis for Knowledge Intensive Entrepreneurship in Iceland started during the prelude to the economic collapse. Due to that fact, the collapse itself did not make the environment more unstable for the firms. For some of the firms, the contraction in the domestic market after the collapse, affected them. This became especially difficult for those who were relying on a domestic income. The governmental reaction after the collapse and the moral changes in the society were in the entrepreneurs favor and lead to a better operating environment.

8.2 Decision-making under uncertainty and complexity

In the micro level analysis a closer look at how the four KIE firms' leader estimated the uncertainty and complexity of the environment. Their countermeasures and corresponding consequence on the firm was investigated. The macro level analysis showed that the complexities and uncertainties that the firms were dealing with were societal. Those factors affected the firms from the outside-in and affected the leaders' decision making at the time, consciously or unconsciously.

The actual crisis for KIE firms in Iceland started before the economic collapse in 2008, and the level of uncertainty and complexity rose during the prelude to it. During the prelude to the collapse the level became so high that it did not increase more during and after the collapse. This was confusing for the companies' leaders. They did not realize that they stood in the middle of a crisis until after the economic collapse. Before the collapse, the society was telling them that everything was great and there was no need to worry. This affected the leaders' estimation of external complexity and uncertainty after the collapse. In all of the interviewed cases this was underestimated.

It may therefore be concluded that firms which had a strong internal structure before the collapse, were better prepared, and had perhaps without knowing it already responded to an unstable environment. The interviewees' estimation does therefore reflect the operating changes from before and until after the collapse, but not the actual situation.

Contraction in the domestic market after the collapse made the domestic income more uncertain and unstable. This forced leaders to seek new opportunities. The micro level analysis showed that those

who set their focus on foreign markets and had a persistent strategy plan (one they followed) had more success than others. To be able to respond to those changes in the most controlled way possible, it is important to estimate the situation in the right manner. According to Courtney et al. (1999), it can have dangerous consequences to either under or over estimate the levels of uncertainty. In the micro level analysis it can be seen that it varied between leaders how risky they estimated the environment to be.

There were two cases that considered themselves to have further developed in a positive way, from the economic collapse until the day of the research. Those two cases have in common that they did not consider the level of uncertainty to increase after the collapse. The other two cases, that did not consider themselves to have further developed after the collapse, did consider the level to increase.

Their success might therefore be related to a correctly estimated level of uncertainty and complexity. For those who considered the level of uncertainty to increase overestimated the situation. If leaders overestimate the level of uncertainty they are more likely to make decisions that suits them each time, without a further thinking. This kind of a suitability management is more likely to have dangerous consequences and may lead to failure. Leaders that over estimate the uncertainty are more likely to focus on cost reduction as was the result in case C and D. They are therefore prone to forget about business planning which is considered one of the vital factors for successful entrepreneurship according to Aard Groen, Van der Veen and Wakkee.

In this relation it is also interesting to look at the entrepreneur himself and his personality. It is a common trait amongst entrepreneurs that they are more willing to take risk than other. Although, they seem to be taking a risk, they do not experience it that way. They do take a calculated risk. This might affect their estimation of uncertainty. If they have thought the situation through and the consequences of various scenarios, they might have felt that the environment was not as uncertain as it was to others.

8.3 Effects of internal chaos

As mentioned in section 8.1 there are four capitals that are important to entrepreneurial growth. During the prelude to the economic collapse, two of those were broken. In the micro level analysis, it was however interesting to see that in the cases which were struggling, the other two factors (cultural capital and strategic capital) were broken. These capitals concern the firms' internal structure.

A closer look at case B, C and D's business planning, reveals that they did not have a formal business plan. There was no internal structure. The history of managers in cases B and D appears turbulent. In their cases, especially in the case of D, there was a strong disagreement amongst the board members with regards to the operation. In case A, which was the only firm in a constant growth, had a coalesce management, steadily strategy planning and stable internal structure. This underlines the importance of focusing on creating a good internal structure incoherent with the board and key employees.

According to Timmons (see page 18) the entrepreneur himself is the key person in the firm's development. He is highly dependent on three main factors, one which is his team. Timmons considers it vital for entrepreneurial growth to create a balance between those three factors. Therefore, if the team (in this case the board members) is not coalesce, and there is no internal structure, the firm is not able to tackle the macro level chaos.

This is one of the vital factors for success for case A. They marched together with focus on following their strategy, even if the outside environment was highly uncertain and complex.

9 Lesson to be learned

It is the author's desire that the outcome of this research will be a contribution to the field of entrepreneurship. The propositions developed in the cross case analysis in chapter 7.3 will be further explained in this chapter.

9.1 Proposition 1

“Loans should be in the same currency as the company's income.”

The research reveals that those who had their loans in a foreign currency struggled more during and after the collapse. It will therefore be recommended, that if the firm's best option is to take out a loan, they should have it in the same currency as their main income. This minimizes the risks involved in currency fluctuations.

9.2 Proposition 2

“At a time of crisis, it is important to have a flexible strategy.”

The macro level analysis indicates that in a time of economic crisis, domestic or global, the operating environment takes on a dramatic change. In order to be able to respond and adapt to those changes, it is important to have a flexible strategy.

The micro level analysis reveals that the only case in growth had a stable strategy plan. It was under a constant re-construction, which allowed them to respond faster and more secure.

9.3 Proposition 3

“If the external environment is unstable, an aligned strategy across the firm is important.”

The case study reveals that an internal disagreement has a negative effect on a firm's success. Dealing with external instabilities at a time of crisis is complicated enough, so an internal stability is important.

9.4 Proposition 4

“A change of management during a time of crisis is not recommended.”

The analysis reveals that an unstable management has a negative effect on a firm. A frequent change of management may result in an unstructured management and indefinite development. If a change of management is inevitable, it is recommended to find someone who is familiar to the business (at least the sector).

9.5 Proposition 5

“Seeking global markets is recommended in order to secure growth, especially in a time of economic crisis.”

One of the main results from this research highlights the importance of seeking foreign markets. The ones that focused on foreign markets had more success. Shared by all of the firms interviewed in this report was the regret not to have focused on the global market to earlier in their process.

Conclusion

The overall aim of this report was to investigate how the economical collapse in Iceland affected domestic entrepreneurship. This included figuring out how entrepreneurial companies' leaders experienced the period from before, during and after the collapse as well as how they responded and the result of that.

Throughout the analysis it becomes evident that a period of crisis, for knowledge intensive entrepreneurship in Iceland, began before the economic collapse in 2008. During the prelude to the collapse, everyone had their sights on the financial sector. Everything related to entrepreneurship and innovation seemed to be forgotten. As a result, the operating environment for KIE firms was complex and uncertain. There was a little governmental support, hard to locate funding and a negative social view towards entrepreneurship. After the collapse these factors changed and entrepreneurship returned into the spotlight after being neglected for some time. This resulted in a better operating environment for entrepreneurship which became less complex and uncertain.

As the instability and difficulties had already started before the collapse, KIE firms' leaders experienced no dramatic changes during and after the collapse. The only effect they experienced was a contraction on the domestic market.

Developing a business plan, a vision and a mission, is according to the theory considered to be important tool for a company success. The quantitative analysis revealed a little relation was between those and a success. The micro level analysis indicated that they were only developed in order to lure investors. It is interesting to wonder if actually following the plan, instead of using it as bait would have further increased their success.

How leaders estimated the complexities and uncertainties at the time varied. The answer to the research question may therefore be divided into two parts:

- Leaders in successful entrepreneurial companies did not consider the environment to be more uncertain and complex during and after the collapse. They estimated the environment correctly. Their countermeasure was to seek foreign markets in order to gain an income in foreign currency. This provided a more stable income and secured further growth.
- Leaders in less successful entrepreneurial companies considered the environment to become more uncertain and complex after the collapse. Their overestimation of the situation resulted in a negative development. They considered the environment to be too complicated and uncertain to develop any plans. This resulted in suitability management which is not a recipe for success.

In all, the economic collapse of 2008 improved the operating conditions for entrepreneurship in Iceland. The statistics show that the numbers of bankruptcies actually dropped amongst KIE firms.

It is however alarming that these numbers have increased in recent years, along with the growth of the financial sector. Perhaps, history is repeating itself.

Reflection and Future work

This report has been a learning process. For a further analysis of the report the following might have improved the results and could be of interest. These are based on general observations and the author's interest.

- Selected cases
 - The cases in the macro level analysis were chosen from the Federations of Icelandic Industries network. The interviewed entrepreneurs are linked to the same network and do know each other on a personal level. They might have affected each other opinion over time, and it did occur to me that the interviews might not reflect the overall opinion. If to be repeated, a wider range of entrepreneurs would be selected. However, the micro level analysis supported the findings in the macro level analysis, and the chosen cases are not related personally.
- Second interview
 - In the case study research the interviewees were only interviewed once. Unfortunately they were not always clear and direct in their answering which made it difficult to analyze. After making the case reports it would have been a good idea to interview them again, in order to clear out several points and make sure that the author's interpretation was correct.
- Successful business
 - The word successful can have a wide meaning. When judging if a company is successful or not there are various factors that can be estimated. The estimation used in the micro level analysis, was the interviewees own estimation of their success. It would have been more detailed if data regarding the firms' turnover, return of investment, sale numbers, numbers of employees or other information could have been measured.
- Sectors
 - Entrepreneurship is a profession across sectors. The selected cases in the research were operating in various sectors. The collapse and the following crisis affected sectors in different ways. It might have given more comparable results if the cases were operating within the same sector.

Throughout this process there were many interesting topic that I stumbled up on. Many of whom were however beyond the scope of the project. The following two proposals could be especially interesting to investigate:

1. Is it different to run an entrepreneurial business in a small and unstable economy than in a large and stable economy? E.g. Iceland vs. Germany.
2. How does a negative view towards entrepreneurship affect the entrepreneur himself and his way of operating?

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Appendix

Appendix A – Protocol for Macro Level Analysis

Interviewee Background

- Full name
- Organization
- How he/she role in the firm
- How he/she got involved
- What motivates he/her to stay

The business background

- When did the company start?
- Was it operating during the collapse?
- Where is the company main market?

Outside environment

- Are there any outside factors you consider more vital for the business during the years of crisis?
- Political
 - Where there any governmental regulations that changed that had impact on the firm?
 - Taxes, currency control...
- Economical
 - The currency collapse
 - The currency control
 - Loans and other expenses
- Social
 - How did the customers react to the collapse?
 - What about suppliers?
- Technological
 - Did you mark any competition changes?

Inside environment

- What did the company do to react to those changes?
- Do you consider the collapse as good or bad for the company?
 - Did the business change in any way?
 - Were there any new opportunities you recognized?
 - Were there any team changes?
 - Were there any strategic/operation changes?

Appendix B – Résumé of interviews (macro level)

I: The entrepreneur has started two successful companies in his lifetime. He is now running the second venture, which has been growing and developing from the year 1985. He was living in Iceland and running his firm at the time of crisis and is therefore a relevant candidate for this interview.

The interviewee said: *Soon after the collapse the government sent out a emergency call, where all firms that were able to do something should act now. That is why we used the governmental support and hired people that were unemployed. We almost doubled our labor force.*

The currency fall did, matter of fact, helped us. We had been in a little struggle before, but because our business is almost all abroad, did our income suddenly become positive. The domestic control did not affect us. I had predicted what was going on, and did not believe in all this what was happening in the financial sector, and had therefore moved almost all my money abroad. But of cause was this extra work. What did not take time before, started to take time, like sending people abroad for exhibitions and so, meant that they had to go them self into the bank with their fly ticket, to take out currency. This is not at all acceptable. But like I said, we have all our bank business abroad, and I am not going to change that. I do not trust Icelandic banks and think that we might be going the same way as in 2008.

Even if the collapse, and soon after the collapse did not hit us hard, did the crisis last for too long. After 4 years of crisis, it was evitable that the society would mark it. The world's crisis did also affect us. There has been a great contraction in our sector during the world crisis. And here in Iceland everything is expanding again, so the high salary cost is making it hard for us to compete on that market.

On the other hand are there many thing good working in Iceland. It is good to start a company here and the support has been fine along the way. The only thing that might be better is support to grow the firm.

II: Two persons participated in this interview. One of them is the founder of a business, which has been growing since the year 1992. He was the CEO at the time of crisis but stepped aside in the year 2013. The new CEO is also with us in the interview. He was working in another company at the time of collapse and experienced it from a different angle. He is therefore relevant candidate for the interview as well.

The interviewees said: *Our business is two sided. One of them is only on Iceland while the other one is mostly abroad. When we got our first customer abroad, we quit to focus on Iceland. This was before the collapse was our mindset focused on seeking more abroad. Our main customers here on the domestic market were the banks. The collapse did therefore affect us greatly. It was really hard and we had to fire some people. At that point we set all our power to go abroad and have been developing our product to fulfill a new need on the market we are operating on. The collapse did mostly affect the domestic market. Everybody had to prioritize to minimize cost.*

We like being here in Iceland. Icelandic companies are really coherent. We help each other. We are all in the same position, and it is better to work together to seek abroad instead of looking of each other as a competitors. It is nice to be here, and the support is fine. What is the main problem now is

that the small companies need more support to grow. We have also sometime had problem finding the right skilled labor force.

The capital control was a bit hard for us. It was not vital, but because we have an office in another country it was hard to send money to pay our debts there, but that was only short time. The capital control has been rather inconvenient, and thins that should not take any time at all did suddenly cause extra trouble. The capital control has also been in our way because we have been seeking for foreign investors to go abroad in higher scale. It is not impossible, just hard for us to explain what it means. And it is not good if the capital control is hindering firms to get money to grow.

Our reaction towards the collapse was to seek abroad and prioritize our service and reaction time. Then we just tried to be realistic and take it step by step and estimate all the risks we took.

III: The interviewee started as CEO of the company in 2008, right before the collapse. He was replacing the founder who had been building up and developing the firm since 2000. The founder is still working in the firm, and is leading the R&D department. The interviewee experienced the collapse at first hand and is therefore relevant to this research.

The interviewee said: *The capital control did not affect either, we are only selling products out and there is no problem when you are taking money into the country. The problem is to take money out of the country.*

The collapse itself, did not affect us, it was more of publicity for us abroad. We are using Iceland in our marketing. We are a small firm and when being an entrepreneurial firm it is a constant struggle, so a little extra struggle did not affect us. It became easier to find money after the collapse. Before we had to go to different investors or banks just to get small amounts, but no one was interested in so small investments and told us to come back when we were in need for higher amounts. This changes, and in 2009 did those same people become interested in our firm, and investing smaller amounts.

What was the most vital for us were the tax privileges for research and development. This was the best help we could get at the time. It was also good to be able to seek grants from official innovations funds, and was those two actions from the government really important. Being able to hire more people on lower salary cost did also help us and did we hire 3 people through that project, and they are all employed here today. But most important for us is to know that our product works. We are not only in it for the money. Each time we get compliments it is like watering a plant. This is what drives us to go forward.

IV: The interviewee founded a firm, with two others entrepreneurs, in 2001. He was the CEO from start until 2014. The firm has been growing and is doing great. He experienced the collapse from first hand and is therefore relevant to interview.

The interviewee said: *At the beginning we had hard time finding funding and the banks did not even want to talk to us. That might be our luck, because of that we did not had any heavy loans in foreign currency after the collapse. Our product is produced here in Iceland, and is sent abroad when it is ready.*

Before the collapse it was not considered to be wise being in the technology sector, but afterwards could people see that it was valuable.

The collapse had most effect here within Iceland. We did not notice any changes abroad. Here did everything just stay still for a while. Suppliers set extra pressure on every payment, because there were so many that were going bankrupt and they just wanted to secure their income. At the time we did hurry up to seek abroad in higher scale. There was not market here, so this was our way to stay alive. Never the less, do we not want to move the firm abroad. It is perfect to use Iceland as a pilot market because the intimacy is so high.

The supporting environment is also becoming better all the time here. Before the collapse it was almost impossible to start knowledge based firm. It was like there was no space in the society for us. The working environment was bad. I think the tax privileges were the best thing the government did for us after the collapse. It was vital for our firm at least.

It was of cause hard to ignore everything what was happening in the society during the expansion, but no one could know what would happen. We just tried to play secure.

V: The interviewee has started several adventures. He started his most successful adventure in 2002 and was the CEO until 2012. He is still the owner and chairman. Since then he has be building up a new firm. He has been an entrepreneur for many years, and does know the working environment and how it has developed over the years. He is therefore relevant candidate to this research.

The interviewee said: At the time of collapse we were starting to build an office abroad. This has been a struggle, because of the capital control. Each time we need money for the office abroad we need to get permission from the Central Bank of Iceland. Otherwise we did not mark the collapse. There were small things like suppliers did not have deadline for payments and few customers asked if this would affect them. The world crisis did hit us harder than the domestic collapse. We do almost all of our business abroad, the world crisis was hard on our sector.

Before the collapse did the economic sector overruled everything, because the Icelandic currency was so strong. After the collapse did the social attitude change dramatically, it was no longer accepted to be a business man.

Even if the economical environment is hard and unstable here in Iceland, it is really fun to build up and run a business here. The intimacy on the market is one of its kind and because of it, it is easy to build up good reputation.

Appendix C – Protocol for Micro Level Approach

The firm's history:

1. Can you tell me the firm's history? For example;
 - a) How and when it was founded?
 - b) Its development through the years?
 - c) How it was financed?
 - d) Position on the market/marketplace?
 - a. Competition
 - b. Domestic/foreign market

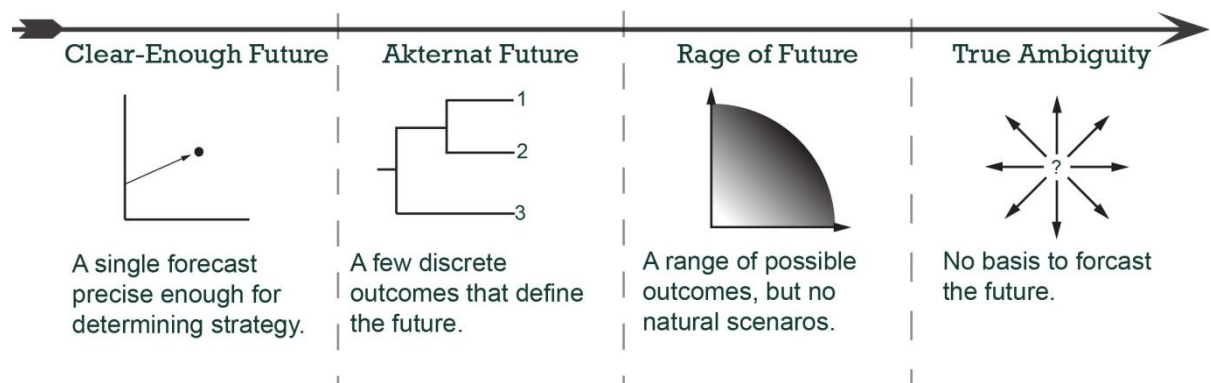
Ex-ante:

1. When you started the company; did you make business/strategy plan?
 - a) If yes;
 - Why?
 - How was it?
 - Did you follow it?
 - Did it change in the process?
 - b) If no;
 - Why not?
 - How did you plan your business?
2. Did you do any formal vision and mission?
 - a) If yes;
 - Did you manage to follow it?
 - How?
 - b) If no;
 - Why not?
 - Did you know where you wanted to take the company and how you were going to do it?
3. Before the collapse in October 2008, what were the firm's main focuses?
4. If we look at Model 1, where do you consider the company to be in its development process when the collapse happened in 2008?
 - a) Why do you think that?



During:

- When the collapse happened, how did the following parameters affect the company?
 - Currency collapse?
 - Currency control?
 - Your income and spending?
 - Your markets?
- If we look at Model 2, how uncertain did you consider the environment first after the collapse?
 - When do you feel the environment became less uncertain?



- What was your reaction within the company?
 - Did you rethinking the business in any aspect?
 - Did you do (new) business/strategy plan?
 - Did you change your vision?
 - Did you set (new) milestones?
- Did you do something formal to estimate the risk for the company and its working environment at this time?
 - If yes;
 - What?
 - How?
 - How did you use the outcome from it?
 - If no;

- How did you make decisions about the company's future, in this chaotic environment?

5. Were you at any point worried about the company image on the foreign market?

a) If yes;

- Did you do something to react to that?
- What? / Why not?

6. Did those worries become true?

Ex-post:

1. Did the following world crisis affect the company in any way?

a) How?

b) More or less than the crisis here in Iceland?

2. What do you consider a breaking point for the firm in its development, at this point in time?

a) Why?

b) How did that happen?

3. Did you feel that the decision and reaction, taken in the moment, did give the company what was expected?

a) If yes;

- What exactly?
- How?

b) If no;

- Why not?

4. How was the company's finance at this point?

a) Were you in need of funding?

- Did you get what you needed?
- How did you seek for it?

5. When you look back, is there anything you would have done differently?

a) What?

b) Why?

Appendix D - Résumé of interviews (micro level)

Case A

The interviewee said

I became a part of this firm in 2003, when I was hired as a sale manager for the domestic market and a board member. I then became a manager in 2012, when the previous manager moved to Norway to build up our subsidiary there. In the very beginning there were two engineers that established the firm in cooperation with their employer at the time. They went into a really narrow market with a really unique product. This was of course hard, but soon they saw a new opportunity. They began then to develop the business in that direction, and is it the firm as we know it today.

The firm is established on own capital, it was just the way at the time (1990), owners used their own money and started to run a business. Few years later they received a grant from one of Iceland's innovation fund, later did another innovation fund become a shareholder, and another fund did also invest newly. They are both still shareholders. We are a firm in growth. We can live on our income, but the latest investment was because we wanted to expand into foreign market, and needed funding for marketing.

When the firm was established there was no formal planning. It was first when the funds came into the picture that a formal planning was made. Funds like that do not invest unless they can see business plans. For those two times there were made formal and heavy business plans. We did follow those plans, but we did also do something else. In 2004 and then every 5 years, we have had formal strategy planning days. First it was with all of the employees and then just with key employees. There we have asked the question; where do we want the firm to be after 5 years? We have used the results and worked by the plan, this has been a success and we will continue with it.

At the time of collapse in 2008, our income was about 90% on the domestic market and 10% on the foreign market. The collapse in itself, did not affect the firm in high scale, and the capital control did not. Our income from abroad did increase when the currency fell so we did not mark any big changes in our operations abroad. It was mostly on the domestic market we did notice changes. Good customers on the domestic market, especially official and semi official institutions, and the banks of course, did continue to be customers but did minimize all service. This did affect us and did reduce our income. Because of it, the leaders in the firm did reduce their salaries, I think two times. This does of course relate to the collapse, but this was at no time any dramatic.

It did help us at the time that we were in no debt. We have laughed at it few times, me and the previous manager, that it were not use the caused the collapse and that is why we decided it would not affect us. This was of course a mental decision.

Me, and the sitting manager at the time, did agree on that we did not experience the situation to be dramatic in any way for the firm. Soon after the collapse we did not know, like many others, what the collapse meant for us. That is why we estimated the situation to be just as complex and uncertain as the whole economy of Iceland. We did not consider it to affect our business directly, unless everything would end in hell. That is why we did not take any specific measures. What the collapse did to us is that it pushed us to seek more abroad, because the Icelandic currency was so low that it did create good income. Our plan was to go abroad, because we know that Iceland is a really limited market for our product. We did just hurry up the process. We started to seek for funding to go abroad, and we consider it to have been in our favor, that we wanted to bring money into the country and

therefore seek more exchange into the country. We got money soon after the collapse, and that might be a factor to limit the consequences from the collapse.

Never the less, the future was pretty clear. The collapse was no turning point in our work. We did sit down to consider what this could mean for us, but the result was just to continue and what did help us the most, was that we had a clear vision that we did work after. We did decide to continue working after it with increased focus on foreign market. This did work good and last year was 70% of our income from abroad.

There were also other factors that did help us and we did consider. In 2006 and 2007 everybody were business men. Everybody were in the financial sector and all companies were buying and selling stocks. There was no interest in the internal business optimization, and it did not matter for managers if things like cleaning did cost half or whole million. We did therefore look at, and we did, change service contracts. Instead of charging for everything separately we did include specific amount of work in our monthly description. That is how we could secure stable income, and the customers did not have to worry each time they called us, that each minute they were on the line was money.

If it was up to me to change anything from that time, I think I would focus on marketing abroad. But it is good to be wise afterwards. The result is never the less, that we are here today, quadruple the size we were in 2008. The future is ours.

Case B

The interviewee said

This did all start when a farmer wanted to reduce the use of fuel on his farm. He started the development and has been within the firm almost all the time. I was hired 2006 as a sale and marketing expert, because they were about to launch the product. Soon after I started there was hired a new manager, which was a mistake. He was hired to be there part time, and that does not work in entrepreneurship. When you are in entrepreneurship you are forced to do it full time. You have to be willing to sacrifice yourself and this person was not willing to do so.

Never the less, we went to China to find a producer. We had heard that the Chinese were prone to say yes to everything, even if it was not true. We made a contract with one producer that was promising, but when the time passed we figured out that they were not as good as they said. There after were the just testing, testing testing to solve the technical problems, and the producer was always trying it with customers, that at the end got tired. This ended that the cooperation faded away. At that time the collapse had happened. It was heavy to find money and the manager that only was working part time quits, and left the firm at point zero financially. The firm were just floating for few months without manager, and we who were just employees were trying to keep it alive. Then all of the sudden the board hired new manager that they believed could save it all. His first job was to fire the inventor that new all about everything. Then he fired me, because I as a marketing director was not selling anything. Of course there came some money in with him, but that he spent still and slowly until he was fired about 8 months later. On the board meeting he got fired, I was hired without my knowledge. My requirements for saying yes, were that I became director and manager so I could do it like I had said it should be done for many years. When the inventor finally comes back we were able to find more money and we start to use the tax privileges.

We have been receiving different funding, grants and using bank loans to run the business from the start. Money has been our biggest obstacle. Each time we get some money we are able to go little bit over zero in the bank account, the product development gets little bit further, and then everything is

stop again. We have been seeking for innovation grants each year for a while. The application process is really complicated and heavy. They want a really detailed business plan, that we have provided, but never the less do we not get it. There are always new requirements, and we can never be sure that our application is better this year than the next, because next year is it someone else that estimates our application. This does also take way to long time, it takes few months from the time you send in the application untill you get answar. For entrepreneurial firm, this does not work. It has to be faster.

In the meantime, before the collapse we were in great need for money and could not find any. Then we went to the bank and got loan in foreign currency. When the currency fell the loan went from 6millions isk, up to 40millions isk. And it is not possible to get loan without a personal mortgage, so I and 5 other board members were personally responsible for this loan.

The big problem is that nothing happens if there is no money. This slows the process down all the time. If you have to build a prototype but do not have money, you first have to use time to find the money. So every thing we do is to seek funding so we can kick the product development one step further. This is one of the reseapon it is so hard to make business plans. The only thing we know is what we have and what we have to do next. We just take one step at a time. Now we have found a producer that has to pay us for the cooperation. This is working great and are we about to launch our first products. There was also a good push forward when the two largest investors investet in the firm. This was of corse vital for the firm to not go bankrupt. We have been to close to that point to often.

We did not mark effects from the collapse. We did just felt the currency collapse. We had a small operation abroad at the time of collapse, and all of a sudden had a normal working class employee the highest salaries in the firm. The operating cost did also become higher after the collapse, but maybe because this is struggle all the time, we did not mark the change during the crisis. We just had to find little more money than ususal. The collapse did not have a major affect on us. We could more see it in the news, so we did not consider the environment to be more uncertain or complex than usual.

There are many mistakes that have been made over the years, and this of corse just to learn from. The worst thing is when the same mistakes are made over and over agian.

Case C

The interviewee said

The firm was established in 1997, but the technique behind it has been used since 1972. The technique was developed to increase efficiency in the fish industry by me and another entrepreneur. In 1997, I further developed the product to meet the needs in other sectors, and established the firm as it is known today.

We have sold the product from the beginning, and have been able to cover our self. Never the less the finance has been struggle all the time. We have not been able to receive any funding. The bank has helped me few times, but we try to cover it all by our sales. In 2007, the firm went bankrupt but was reestablished right away under new ID and new name. This has been really tough few times.

Our focus have mostly been on the domestic market. We have gained a good and stable customers here. There has always been a littlebit abroad, but nothing that count. Latly we have been trying to reach more out, but it is hard to find money to do so. If I had more money I would without a doubt seek abroad in much higher scale. I have tried to find money, but when I seek for funding I always

get the same answer, that the product is too perfect and that I should have come when I only had an idea in my head.

Business plan and other plans have been in rather thin air. Planning is not made to pass; they are to be used as a guideline to lean on when things do not go as planned. This is a big misunderstanding amongst people. The plans we have made are just a wishful thinking. Everything takes a longer time than expected. We do make lists. We make a list of projects that are in making and projects that has to be made. Then we prioritize. We do also make a list of potential customers, and how we want to reach out to them.

We did not mark any changes after the collapse. I choose to look at it this way; every change is a new opportunity. I would not have survived throughout all of those years if I was not positive. The only way is to go forward, no matter what. The changes I did notice, was that I all of the sudden was closer to customers. It became easier to approach them, but saying yes to buying the product is still hard.

We have not reached much further in our development since the collapse. The domestic contraction was hard, and if I would change something, I would have set the focus on the global market sooner.

Case D

The interviewee said

The firm was established by me and three others. At the beginning this was only a project worked in cooperation with a rather large. Few weeks later the firm was so happy with the result of the project, that it became a business. We were doing alright, but needed money like other entrepreneurs, in came investors. They did only do half of what they promised, but they did realize that there were many binded sale contracts that was possible to pledge. The idea was to pledge the contracts really high at the beginning, to seek abroad. New contracts were not to be pledged and were to pay the debt. This idea dose work in a growing economy but not if there is no growth. In the year 2006 the pledging was in overdrive.

During the prelude to the collapse, the investors made some kind of a power campaign. The firm was technically declared bankrupt, and all the shareholders were offered to buy shares on spot price. The firm was therefore almost given to them. This was the investors plan to save the firm, and then they required to choose new manager. The manager came in and did not know anything about the business.

When the manager stoped, and I became manager again, the firm was pledge about 130% of the year turnover. We knew that we owed way to much, but nobody was doing anything, so my plan was to minimize those debts. But it was hard to make any plans, different finance institutions in the country had no plans, so this resulted in suitability management and noone willing to make decision. We did try to go deeper into strategy planning, and did focus on new customers. This worked in some degree and when we became bankrupt the firm was only pledge about 48% of the year turnover.

The currency fall did hit us really hard. The sale contracts were pledge for loans in foreign currency. The capital control did not affect us on the other hand. We were not taking money out of the country.

It was also hard to see, when the investors came in with new manager, the heart went out of the firm. Our vision was forgotten. Our aim was to create a positive effect on the society, but it became just business. Because of this change view, we did not develop further. We did just offer that we had.

At the end there was a high disagreement between shareholders. We were divided into three groups that worked against each other.

I would say, that it is highly important, when investors come into a small firm, that they do not drown it into costs and requirements. The business plan, and the strategy plan, should be a signed agreement between owners and investors. That became our fall. The investors did have a totally different plan than us.

Appendix E - Operating in a small society

After interviewing the entrepreneurs in the macro level analysis, following findings about their opinion of operating in a small society was summarized.

- All of the interviewees agreed on many of the qualities of operating on a small market like Iceland. The society is small and the relationship with the customers is intimate. It is therefore a good pilot market where it is easy to gain feedback and developing the product in cooperation with customers.
- On a small market like is in Iceland, it is easy to gain strong network. People are meeting over and over again so the entrepreneur can easily create a good reputation. A good reputation will create trust that will make it easier for them to grow.
- The interviewees do all think it is difficult to find right skilled labor force within Iceland. It is a known challenge to find the right people for technology driven firm. This becomes even more difficult on a small market like in Iceland.
- Another issue of a small market is how hard it is to grow the company. The firms are forced to seek new markets outside of Iceland if they want to grow. During and after the collapse, it was vital for companies to seek on foreign markets, were the contractions on the domestic market was so much that the firms were not able to live on the income from it.

Even though the environment was unstable they saw the benefits in staying on a small market. They could see a great value in intimacy with their customers and suppliers. Few thought about moving the firm from Iceland, but they estimated it to be better for the firm to stay.