



**Linnæus University**

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Master Thesis

# To Master Disaster

*How SME managers can thrive and benefit from  
economic crises*



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*“Be fearful when others are greedy  
and greedy only when others are fearful”  
- Warren Buffett*

## Abstract

Economic crises become progressively more global and the frequency as well as the length by which crises occur, is increasing. Crises affect all businesses differently and operating in times of crises is arduous which makes outcomes unpredictable. But there is one certainty: the manager's approach to handling crises will affect the company's output. The concept of antifragility will be introduced which means to go beyond resilience; with the purpose not only to survive crises but also to gain from the disorder that is caused by it. The antifragile uses change to its advantage and grows from it. In SMEs the manager has a significant responsibility and the future value of the company mainly a consequence of their actions. The natural response to crisis is to assume a defensive or passive posture and cut down expenses to survive. Essentially leaving the company vulnerable for a longer period of economic downturn, thus making it considerably more difficult when the market rebounds.

This study aims to explore the field of antifragility and examine a manager's possibilities to move towards the creation of an antifragile SME. Analysing the areas that move the company towards antifragility and how managers can utilize these assets to profit from economic crises is a key inquiry. To fulfil this purpose, the study is accompanied by qualitative case studies of seven Swedish SMEs which operated during the economic crisis in 2008 and 2009. The empirical data was collected through semi-interviews at each of the case companies.

The theoretical framework includes the theoretical key success areas, strategy, opportunities and motivation, and different theories regarding managers and antifragility. The theoretical framework concludes with the theoretical synthesis developed from the theories presented earlier in the chapter. The findings from the interviews are presented in the empirical chapter. The analysis connects the theoretical framework to the empirical data, and forms the basis for the paper conclusions.

## Keywords

Antifragility, manager, economic crisis, thriving, antifragile SME, strategy, opportunities, motivation

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# 1 Introduction

*The first chapter of this study gives an insight into the main concepts in which the study will touch upon. At first, the background of the study is discussed, highlighting managers in Small and Medium sized Enterprises (SMEs) operating in times of economic crises in an international context. The final part of the introduction is concluded with the problem discussion, research questions, purpose as well as an illustration of the thesis outline.*

## 1.1 Background

Gryskiewicz (1999) stated that today's business environment is entirely different from the 1950s. In the 1950s, business organisations were typically monoliths, which valued repeatability and predictability over other business practices. At present, the business environment is marked by foreign competition, global economic force, social change, environmental issues, deregulation and technology. All those factors turned the stability forty years ago upside down and show a new unpredictable business environment as a result of globalization. This is what is known today as the age of turbulence and economic crisis (Kotler & Caslione, 2009). The most business firms today operate in economic turbulence under incompressible pressure and try to grow by increasing their profitability and revenues (Dervitsiotis, 2010a; Naidoo, 2010; Glenn, 2009).

To react on the phenomenon of increasing economic turbulence, it is necessary to understand turbulence and its effect on business. The most common economic turbulence today are economic crises (Vargo and Seville, 2011; Kotler and Caslione, 2009). Furthermore, the concepts of turbulence are characterized in terms of natural, scientific and physical attributes, which describe turbulence as violent or agitated behaviour. Kotler and Caslione (2009, p.13) defined business turbulence as "the unpredictable and swift changes in an organisation's external or internal environments that affect its performance", which occurs in the course of an economic crisis (Kindelberger, 2002). Working in more turbulent and unpredictable markets, requires more flexibility and dealing with turbulence becomes increasingly important for companies (Gryskiewicz, 1999; Grant and Jordan, 2015, Kindelberger, 2002).

Since the 1970s the frequency and severity of economic crises are unprecedented (Anderson, 2013; Ryder, 2016), something that is confirmed by the global extent of a crisis and by the decreasing average time span between crises (economic crises table - Appendix A) (Kindelberger, 2002). Within the globalised economy the most recent economic crisis caused a severe recession on a global scale by spreading rapidly across country borders (Hilmersson, 2014; Broughton, 2011, Smallbone *et al.*, 2012). Although not all SMEs operate in an international business environment (Sandberg, 2012; Hilmersson, 2014, Hilmersson *et al.*, 2011), evidence indicates that SMEs in general were affected by the global economic crisis in 2008-2009 (Broughton, 2011; Weymenga *et al.*, 2011). The crisis was accompanied by a great financial collapse that occurred with banks going under and the stock markets plummeting worldwide (Adebambo *et al.*, 2015). Madrid-Guijarro *et al.* (2009), found that the economic and financial impact of the recession in 2008 - 2009 caused firms to struggle, resulting in cost control and attempts to stabilize their sales. However, with an economic crisis and markets becoming unstable, fluctuation as well as uncertainty increase (Ibid, Hilmersson *et al.*, 2011). The market turbulence of the past economic crisis may have foreshadowed a new component of globalisation, one in which uncertainty and volatility play a crucial role and is likely a constant factor to reckon for SMEs (Glenn, 2009, Dervitsiotis, 2011).

One possibility to survive and recover from economic crises is the implementation of resilient business activities (Coutu, 2002). Among some of the researchers who examined resilience and survivability during times of economic crises are: Somers (2009), Crichton *et al.* (2009), Coutu (2002) and Hilmersson *et al.* (2015). These authors have contributed towards the field of resilient organisation. Ates and Bititci (2011, p. 5601) define resilience as “the capacity of an organisation to survive, adapt and sustain the business in the face of turbulent change”. Additionally, the concept resilience is defined as the firm’s ability to return to a durable position after facing uncertainties (Bhamra *et al.*, 2011), being able to jump back or rebound (Kotler and Caslione, 2009). Lengnick-Hall and Beck (2009) describe that resilience, as an organisational concept in an SME context, refers to the company’s ability to adapt to influential events such as economic crisis. The concepts of resilience and robustness are often mentioned interchangeably, the overall goal for business leaders to create robust and resilient

organisation is one of the foundations for this occurrence (Kotler and Caslione, 2009). Furthermore, Kotler and Caslione (2009, p.105) defined robustness as, “the quality of being able to withstand stresses, pressures, or changes in procedure or circumstance; it means being capable of coping well with variations (sometimes unpredictable variations) in operating environments with minimal damage, alteration, or loss of functionality.” However, the concept of resilience in the context of SME managers shows that directors handle crises differently (Aleksic et al., 2013; Ates and Bititci, 2011; Pal et al., 2014; Crichton et al., 2009; Lengnick-Hall et al., 2011; Mamouni Limnios et al., 2014; Somers, 2009). Although most smaller organisations can build upon the concept of resilience by using their strengths in core businesses, the exposure to extreme events or turbulence such as severe financial crises requires more drastic measures if the company wants to survive (Sullivan-Taylor and Branicki, 2011). Research indicates that, on one hand, resilience is an approach for companies to survive an economic crisis (Kotler and Caslione, 2009; Somers, 2009; Crema et al., 2014; Crichton et al., 2009; Coutu, 2002; Hilmeresson et al., 2015). Furthermore, it reduces the negative impact of the crisis on the firm (Hilmeresson and Papaioannou, 2015; Mark et al., 2013; Papaioannou et al., 2012). But on the other hand, authors like Kotler and Caslione (2009), Taleb (2012) and Gryskiewicz (2005) demonstrate that likewise circumstances provide opportunities for managers to grow, or increase their profit: something that is often ignored because managers are too preoccupied with the thought of survival.

The concept for managers to thrive during times of economic crisis is called antifragility, which builds upon the Black Swan theory (Taleb, 2012; Tseitlin, 2013; Bendell, 2014). The Black Swan theory is a philosophical concept that derives from unexpected events which lives from the unpredictability that cannot be foreseen. For example: the black swan describes events (economic crises) in a world in which everyone believes that only white swans exist. The Black Swan is considered completely random but as something that has a great impact. Circumstances like these are likely to repeat and the important note is to not be surprised and shocked by such events, but instead finds a way to benefit from the situation (Taleb, 2007; Taleb, 2012). Antifragility goes beyond resilience and robustness, because there is a mechanism by which the system itself continuously regenerates. Regenerating instead of suffering from random events, stressors, volatility and unpredictable shocks like an economic

crisis is essential in order for an organisation to become antifragile. Antifragility is thriving on crisis (Taleb, 2012; Tseitlin, 2013). In a company the manager is the one who has the power to create the antifragile organisation. The managers are the people that create the strategies and the people that can change the organisation to be more growth orientated. Especially smaller firms like SMEs are greatly affected by a manager's influence due to the regularly adopted flat hierarchical structure (Kotler and Caslione, 2009; Porter, 1996).

## 1.2 Problem discussion

### 1.2.1 Antifragility

To be competitive in a constantly changing business environment, SMEs need to consider how to respond nimbly and quickly on one hand and how to make business processes more flexible to find new ways and take advantage of opportunities that arise on the other hand (Glenn, 2009; Hilmeresson *et al.*, 2015; Smallbone *et al.*, 2012). However, taking advantage of new ways of business operationalization shows that there is high risk related to venturing for profit and opportunities, during times of crisis these risks are even more significant (Soininen, 2012). These situation specific circumstances require the SME to align its business processes with the unexpected occurrences that arise from crises events. Meaning that in an economic crisis, SMEs which successfully adapt to the unexpected events from the crisis itself have an increased chance of survivability i.e.: become resilient (Lengnick-Hall and Beck, 2009).

As a consequence of globalization, the unexpected events and therefore the spill over effect, where the volatility of one market leads to a bubble over on other markets, are increasing and affects all markets to a larger extent and also spreads over the world in different areas (Akca and Ozturk, 2016; Kindelberger, 2002; Hilmeresson, 2014). Various authors show that the trend and accelerating globalisation influences the economic business environment of SMEs (Holtbrügge, 2015; Arndt, 2008; Sandberg, 2012; Hilmeresson, 2014). Due to the fact that business turbulence and extreme events, such as economic crises, appear to be increasing in both frequency and severity (Kindelberger, 2002; Kotler and Caslione, 2009; Hilmeresson, 2014), antifragility becomes significantly more important. Considering the overriding objective of a

company to generate revenue (Goldratt, 2004), which is necessary to keep the firm progressing, leads to the need of increased profitability and revenues while operating in economic crises and under incoherent pressure (Dervitsiotis, 2010a; Naidoo, 2010; Glenn, 2009). The realization of the given economic business environment exacerbated for SMEs the conditions to reach their targets (Sullivan-Taylor and Branicki, 2011).

Furthermore, in the past it may have been able for SMEs to ‘muddle through’, but in future circumstances this may prove to be increasingly difficult (Coutu, 2002; Sullivan-Taylor and Branicki, 2011). Sullivan-Taylor and Branicki (2011, p.5576) indicate that SMEs “do not hold the resources and technical systems often equated with resilience capabilities”, such as flexibility and adaptation, “despite their nimbleness and flexibility”. Moreover several authors such as Hilmer *et al.* (2015), Smallbone *et al.* (2012) and Xiang and Worthington (2015) are supporting these thoughts. The need to become more strategic and proactive in the approach to manage the threat and actuality of economic turbulence or uncertain events like the economic crisis seems to be the consequence (Coutu, 2002; Sullivan-Taylor and Branicki, 2011) which calls for the concept of antifragility (Taleb, 2012). There is a need to change the companies towards antifragility in a time marked by uncertainty and economic crises. This relates to both Peters’ (1997) and Kotler and Caslione’s (2009) ideas that managers today think in the wrong way. The more the volatility is repressed, the harder it will come back and everything fragile will perish, but the antifragile will become stronger and much more successful (Taleb, 2012). Peters (1988), Kotler and Caslione (2009), Bourletidis (2013), Taleb (2012) and Glenn (2009) show that instead of trying to survive the economic disaster, the SMEs can thrive during these times and become antifragile.

During a crisis the managers becomes even more important as there is a higher need for fast decision-making and employees is looking for guidance. Antifragility is important for the company because merely being resilient might eventually break the company. Resilience means slowing down and assuming a defensive stance, implying that a comeback after a crisis might take too long (Taleb 2012). Until now, the concept of antifragility has only been studied in a confined way. Hence, there is a lack of research regarding antifragility in general, but more importantly: a manager’s role in the creation of an antifragile SME in particular.

### 1.2.2 Antifragility and critical success areas

To become antifragile, the knowledge of the critical success factors (CSFs) is inevitable (Rockart, 1979; Feindt *et al.*, 2002). Rockart (1979) developed the idea of the critical success factors (CSFs) with the main aim to specify the information needs of executives. Rockart (1979, p. 85) defined them as “the limited number of areas in which results, if they are satisfactory, will ensure successful competitive performance for the organisation. They are the few key areas where ‘things must go right’ for the business to flourish.” This definition is also used by Feindt *et al.*, (2002) to define the CSFs. Rockart’s (1979) seven critical success factors are “Image in financial markets”, “Technological reputation with customers”, “Market success”, “Risk recognition in major bids and contracts”, “Company morale”, “Profit margin on jobs” and “Performance to budget on major jobs”. The critical success factors were found within a special case and can be different in other cases and companies. Furthermore, the factors named above were invented in 1979 and illustrate a direction but does not give a clear answer on the critical success factors in SMEs to become antifragile at present. Watson *et al.*, (1998) have conducted research regarding the CSFs of SMEs and found that there are no clear shared attributes among successful SMEs that could be defined as CSFs. Simpson *et al.*, (2012) claimed that instead, references are made to the lack of an overarching framework that substantiate this finding and researchers therefore commonly refer to abundant literature which describe the variables or key areas influencing CSFs. This issue is overcome by generalising the concept and taking the variables into account.

Several authors like Dasari *et al.* (2015), Dervitsiotis (2010, 2011, 2012), Dibrel *et al.* (2008), Feindt *et al.* (2002), Kaur and Sharma (2014), Philip (2011), Ramukumba (2014), Simpson *et al.* (2012) and Yeh-Yun (1998) use instead of the critical success factors (CSFs) the five key success areas, ‘resources’ (Ahuja and Katila, 2004; Xiang and Worthington, 2015), ‘network’s’ (Rupeika-Apoga and Danovi, 2015; Theingi and Purchase, 2011), ‘management’ (Gomezelj Omerzel and Antoncic, 2008), ‘strategy’ (Hilmersson *et al.* 2014) and ‘innovation’ (Han, 2011; Love and Roper, 2013; Madrid *et al.*, 2009) where SMEs should focus on to become antifragile. For this study purpose and from a theoretical standpoint, the authors categorized the critical success areas in three dimensions: strategy, opportunities and motivation. Opportunities consist of the

key areas networks, innovation and resources. Motivation on the other hand, describes the manager's mind-set and communication towards employees, and therefore the represents the managerial aspect.

Examinations of success factors in the named five key areas demonstrate that there is one variable affecting all key success areas combined: the managers in SMEs. Next to managers and despite the circumstances, theory claims that innovation is a constant priority. Thus, the necessity of innovation does not alter under changing circumstances (stable market conditions versus times of turbulence) (Ahuja and Katila, 2004; Dibrel *et al.*, 2008; Love and Roper, 2013; Madrid *et al.*, 2009; Dervitsiotis, 2010a, 2011, 2012). For that reason there is insufficient information regarding the key success areas to establish an antifragile SME.

### **1.2.3 Antifragility and critical success areas for managers**

Several authors state that the manager plays the most important role in the creation towards an antifragile SME because of a director's direct impact on the critical success areas and respectively on the antifragility (Kraus *et al.*, 2012; Simón-Moya *et al.*, 2016; Soininen *et al.*, 2012; Kotler and Caslione, 2009; Taleb, 2012; Peters, 1987). Based on this knowledge it is surprising to find a lack of conducted research regarding the manager's influence on the concept of antifragility. Although several authors which researched in a similar field of antifragility, such as Kotler and Caslione (2009), Taleb (2012), Peters (1987) and Gryskiewicz (2005) highlight the importance of the manager, none of these authors indicate the importance of an SME manager's role, or how managers should act according to change in the market. Kotler and Caslione (2009, p.11) mention: "if a company's leaders fail to successfully navigate their way through the inflection point, the business declines.", a statement that underlines the importance of the manager once more.

SMEs bring an interesting aspect in the field of economic crises, their flexible nature and the significant weight of a manager's decisions makes them able to react fast to any given situation. Hence, managers can cause SMEs to succeed or fail during economic crises (Kotler and Caslione, 2009; Hilmersson *et al.*, 2015; Smallbone *et al.*, 2012; Kraus *et al.*, 2012). If managers use their resources for pioneering purposes it can work

towards building an antifragile firm. In order to prepare for the next economic crises the managers need to know how to make their firms antifragile so they are able to flourish before competitors do (Amann and Jaussaud, 2012; Lengnick-Hall et al., 2011). Accordingly, there is a lack of conducted research regarding the manager's approach on the use of key success areas to establish an antifragile SME.

### 1.3 Research gaps, focus and contribution

Based on the previous problem discussion the following three main research gaps have been identified:

- The concept of antifragility and how it's connected to managers.
- How the key success areas makes the organisation antifragile.
- How the managers can use these key success areas to become antifragile.

In order to fill these gaps, the focus of this thesis is on the concept of antifragility and the critical success areas within the scope of the manager's role and influence towards the critical success areas and antifragility.

The research area of the role of SME managers to create an antifragile SME, needs to be researched and developed, since the problem discussion above proves that these gaps are of both theoretical and practical relevance. Furthermore it hence contributes to academia and practitioners respectively. The previous research has merely focused on resilience and robustness. Researching this field has not considered antifragility as a strategy for SMEs and the role of a manager to thrive during times of economic crisis or turbulence. However, the discussion above shows that these could also be used by companies as strategies for seeking performance and growth in the uncertain context of economic crises.

### 1.4 Research question

This thesis will be conducted by answering one main research question, which is supported by three sub-questions. The main research question includes the manager's role as a central concept. In this study, activities will be determined by managers, to create an antifragile firm in terms of critical success areas. In the following the research questions will be presented.



***Main Research Question:***

What is a manager's role in the creation of an antifragile SME in times of economic crises?

***Sub-questions:******Sub-question 1:***

How are managers important for SMEs to become antifragile in times of economic crises?

***Sub-question 2:***

Why are the critical success areas important in the development of an antifragile SME?

***Sub-question 3:***

How does a manager utilize critical success areas to thrive during times of economic crises?

## 1.5 Purpose

Based on the identified gaps and the developed research question, the purpose of this paper is to explore how managers can create an antifragile SME. Examining SMEs in times of economic crises, the aim is to analyse how managers influence the firm to thrive during these circumstances through emphasizing the importance of antifragility; how managers utilize critical success areas to achieve a beyond resilient firm performance. The outcome of the paper is a list of recommendations for managers to build an antifragile SME in order to thrive, grow and profit from the increasing economic crises events.

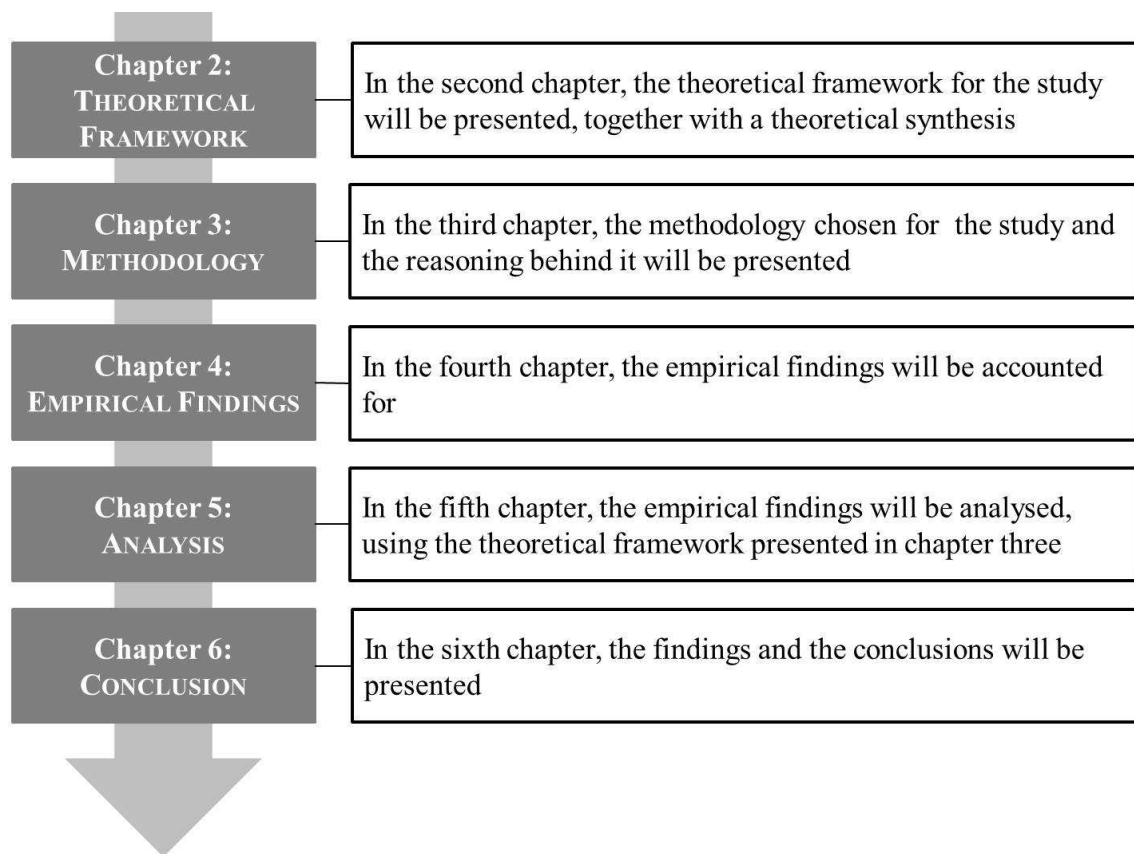
## 1.6 Delimitations

This paper has some delimitation; there is no deeper focus into different types of turbulence. Also the paper focuses on the negative occurrence of turbulence. Positive turbulence is only named as a glance. There are more theories regarding turbulence that would create different outline of the paper. For this paper we only focus on crisis and emphasis on economic crisis, due to it being the most extreme version of turbulence.

Furthermore this study only focus on Swedish SME companies, the strength is that conclusions become connected to how one country-market reacts. But the weakness lines in the lack of contrast that another market would bring. Furthermore it is limited to SMEs and no service companies are looked into, a field that might be interesting for the future. The paper is a cross-case study, meaning that no testing of larger databases will take place.

## 1.7 Thesis outline

To provide a clear overview of this paper, the thesis follows the presented outline below.



*Figure 1: Thesis outline (Source: Own Illustration)*

## 2 Theoretical framework

*The theoretical framework, starts with going into the field of antifragility, and then moves over to explaining the managerial role of the SMEs. The part of Antifragility is put first in the chapter to give the reader a clear understanding of the concept before moving on with the rest of the chapter. The three areas Strategy, Opportunity and Motivation, is then discussed to understand how managers can influence towards an antifragile organisation.*

### 2.1 Antifragility

Antifragility goes beyond resilience and robustness (Taleb, 2012; Tseitlin, 2013; Bendell, 2014), “the robust or resilient is neither harmed nor helped by volatility and disorder, while the antifragile benefits from them. A lot of things people call robust or resilient are just robust or resilient, the other half are antifragile” (Taleb, 2012, p.59). It is not easy but it is simple (Rosenberg, 2004), to dive into the concept (Taleb, 2012). The blind spot of antifragility seems to be universal. Antifragility seems to be a neology as there is no complementary word named in the Oxford Dictionary. Furthermore in the main known languages, colloquial, slang, modern or ancient and even in Russian and standard Brooklyn English, there is no word for “antifragility” (Taleb, 2012, Bendell, 2014). Research in the field of antifragility shows that the starting point of the concept is chaos theory, as discussed by Peters (1987) during the 80s, who states that predictability is impossible. Nothing is stable and change is an ever present factor in the world of international business. Turbulence, in that sense, offers the possibility to transform change into a positive opportunity, which – when properly managed – creates innovation and on-going renewal (Gryskiewicz, 1999). This is also the reason why turbulence is not necessarily associated with an unfavourable situation and determines the manager’s approach towards such situations. This study, for example, attempts to explore the manager’s mind-set and discover whether managers consider turbulence or change to be a threat or an opportunity. There was a need for managers to start rethinking the way they were acting. Instead of trying to maintain the business the managers need to start changing towards the better and start to accept change. Kotler and Caslione (2009) expanded on the idea of chaos that today we live in the Age of Turbulence, new shocks and unexpected event will occur more often. Chaotics are brought up as a concept for thriving in the times of economic crises and builds upon the

field of resilience with a strong focus on robustness and stability. Claiming that managers are the most important part in handling crisis. The managers make or break the organisation during a crisis. (Taleb, 2012) and Tseitlin, (2013) says that it would not suffice to aim for resilience. The strong focus on the resilience makes the company move away from the thriving aspect.

Furthermore the antifragile gains from prediction errors (Taleb, 2012). The system gets more prepared and becomes more transparent and predictable the more frequently failure occurs. Increasing the frequency and variety of unpredictable influences leads to a stronger antifragile system, which deals better with each newfound disruption. Creating a proper feedback in the system by focusing on learning and fostering a blameless culture is essential within this system (Tseitlin, 2013; Taleb, 2012; Bendell, 2014). Therefore it is understandable, that Taleb (2012, p.33) explained that “technology is the result of antifragility exploited by risk-takers in the form of tinkering and trial and error, with nerd-driven design confined to the backstage. Engineers and tinkerers develop things while history books are written by academics.” Companies must think of ways to make their processes more flexible, more agile (Glenn, 2009). Bendell (2014) summarizes that antifragile systems grow stronger through exercise, which correspond in their properties to humans.

Taleb (2012) explains that to be antifragile, there is the need to have a love for adventure. Step away from the negative view of the turbulence and find the new ways to use it to their own advantage. It’s important to move away from resilience for when exposed to enough volatility it will eventually break. To be antifragile, there is the need to have a love for adventure. Step away from the negative view of the crisis and find the new ways to use it to their own advantage. It’s important to move away from resilience for when exposed to enough volatility it will eventually break. A company should thrive during crisis; gain something from the changes that happens. Take the opportunities that arise and grow when others are going into decline.

## 2.2 Managers

“...Leadership is evolving due to the changes of the world, such as downturns in economy and technological advances. Organisations must continue to adhere to their

values as leadership evolves - considering ethics when promoting or creating leaders, as well as experience and competence.” Morgan (2016) said in an article of the Forbes magazine on the 28th of march 2016 based on Dr. N.S. Rajan’s book “Quote Me if You Can” which underline the importance of a the manager on the SME’s way to become an antifragile company.

It is difficult to be prepared for unexpected events like an economic crisis. Especially the vulnerability of SMEs and the responsible managers who steer the companies during times of turbulence (Herbane, 2010). Furthermore SMEs tend to have lower resources than large companies which end up in a higher risk for perceiving the crisis impact. The managers of small firms are mostly not in the position to dedicate resources to manage the upcoming uncertainties, which leads to cutting down the expenses (Sullivan-Taylor and Branicki, 2011). Peters (1987) said that managers need to change the way they think about the world and adapt to uncertainty of the environment. In a globalized world, being comfortable is not an option. Players from all over the world are constantly making changes of the market. In times of chaos, organisations and their managers need to be flexible (Peters, 1987). A manager's responsibility is to make sure that the company can take the hit of an economic crisis without going under (Lengnick-Hall *et al.*, 2011; Sullivan-Taylor, 2011; Vargo and Seville, 2011). To be able to thrive on chaos the manager of an organisation needs to find ways to use it to their advantage (Peters, 1987). Nevertheless one impediment is that the crisis is seen from a negative point of view where managers need to find ways to lower the impact of the crisis on the firm. However researching the concept of resilience in the context of SMEs shows that managers handle crises differently (Aleksic *et al.*, 2013; Ates and Bititci, 2011; Pal *et al.*, 2014; Crichton *et al.*, 2009; Lengnick-Hall *et al.*, 2011; Mamouni Limnios *et al.*, 2014; Somers, 2009; Sullivan-Taylor, 2011). Coutu (2002) make clear that during deep recessions, resilience becomes more important than ever and that you can learn to be resilient. Related to antifragility Taleb (2012) writes how the unknown and the unexpected needs to be embraced. Anybody who wants to become antifragile needs to be proactive. In times of crisis one needs to overshoot the aims and the preparations. Go beyond what is needed to succeed, to be antifragile it has been more than resilient, doing a little is not enough. Nevertheless Smallbone *et al.* (2012) explained that SMEs to a large extent performed better in times of turbulence if managers try to find revenue generating operations and investment in the company instead of cutting down costs.

This insight calls for a new approach for SME managers. Managers that expand their business and sales. The managers that did not do these types of activities were among those who performed worse during the economic crisis. Kraus *et al.*, (2012) explained that there is a positive correlation between the entrepreneurial orientation of managers and their performance during times of economic crises. Managers that were proactive during economic crises performed better than others.

There is a need for a revolution in the way managers think and act. During an economic crisis the managers have the opportunity to create an organisation that can thrive in times of turbulence (Peters, 1987). The manager requires the mind-set of change and adaptability to move away from stability and find new approaches to generate profit. Kotler and Caslione (2009) explained that managers have a big impact on companies and their reaction to turbulence is a pivotal moment. The ‘regular’ manager's response is either to make small changes and hope for the cease of negative turbulence, or try to cut as much cost as possible to survive. A manager that wants to thrive has a different perspective on turbulence. Instead of being defensive, a more aggressive stance is assumed; competitors cutting down or going under means more business for managers to pick up. Instead of saving, risks are taken and investments made to emerge stronger from the economic crisis.

Managers are the top decision makers in a SME; they are the policy makers that decide what the firm does. The way the managers perceive the economic crises influences how the SME handles and what measures they take to counter it. During the economic crisis the manager might venture into the unknown, into a position that he/she does not have experience with. Thus it is important for managers to be proactive and be prepared for what is called ‘detectable turbulence’ (Peters, 1987; Soininen *et al.*, 2012). Hilmersson *et al.* (2015) explain that SMEs are flexible in nature and have the ability to react fast in the markets they operate in but therefore the right decisions have to be taken. Malik (2014, p.52) brings it to the point at which “proper and good management means effective creation - of the right thing, to think right and to do right”. Malik (2014) stated that managers mobilize and enable resources of a firm. The managers are responsible for the innovative power and the productivity. They can use resources productive, unproductive or counterproductive and apply it for overtaken or for pioneering purposes. This is the reason why managers make the difference. Kotler and Caslione

(2009) explain that cutting down cost or panicking in times of turbulence might cause damage that cannot be reversed. Managers need to be aware of what they are doing and think proactively to not go under. Do not moving and saving might remove your strengths and make your competitors surpass the firm.

Taleb (2012) speaks of stressors in the environment; things that happen that change the situation. The idea is that from hard times come harder entities. From circumstance come new opportunities for those managers who are acting to find them. Learning from what the new environment has to offer and not focusing on the problematic side of it. Rethink the negativity of a situation and going against the herd and try to find what they cannot.

Kotler & Caslione (2009) explains that during turbulence, moral is very important for a manager in order for them to stay competitive. In times of uncertainty, employees start to feel unsafe and it is easy for motivation to fall. This is dangerous for the firm and might result in a drop in performance. Sung (2011) showed that during an economic crisis, motivation was one of the highest rated causes for success often directly related to the manager.

The fragile entities are things that will lose or collapse in the face of uncertainty. A period of uncertainty after a stressor can either be long or short. It's important to be proactive in these times of uncertainty, to have a plan for what is to happen. To become antifragile one needs to be creative in this quest. Sometimes throwing out traditional ideas or going against the stride it positive in the times of uncertainty (Taleb, 2012).

Kotler and Caslione (2012) identified the most common mistakes that business leaders make when turbulence hits. Managers make “resource allocation decisions that undermine, core strategy and culture, Across-the-board spending cuts versus focused and measured actions, Quick fixes to preserve cash flow, putting key stakeholders at risk, Reducing marketing, brand, and new product, development expenses, Declining sales and price discounting, Decoupling from customers by reducing sales-related expenses, Cutting back on training and development expenses in economic crises, Undervaluing suppliers and distributors” (Kotler and Caslione 2012, p.49).

## 2.3 Strategy

The strategy of an SME has a clear importance of how the SME perform; the different strategies of the firms affect the survival and growth. The strategy is the core of a firm's performance and the way they interact with the external environment. The different strategies of the SMEs are a clear factor in the success of the firm (Philip, 2011; Simpson *et al.*, 2012). Nevertheless the strategy of a firm is hard to define and is different for every firm (Smallbone *et al.*, 2012; Vargo and Seville, 2011). Peters (1987) explains that a strategy is a plan for the organisation to get where they want to go. Mintzberg (1996) defines strategy in several different ways. The most common and best fitting definition to the current thesis is the following. Strategy is a plan, a "how", a means of getting from here to there. Porter (1996) defines strategy more as the competitive position, in which a company has to differentiate itself in the eyes of the customers, adding different value regarding the competitors through a mix of activities. Moreover Porter is talking about the competitive strategy, which implicates the competitive advantage and being different. Managers have to be different with a clear plan to lead an SME to antifragility and nevertheless this requests end in the need to have a different strategy from others.

But in times of crises, Kotler and Caslione (2009) describe a three-year strategic plan as worthless and anachronistic. Especially cause in a traditional approach uncertainty and crises are often underestimated in case of manager's predictions, which can lead in a downright dangerous approach. "At the core of the traditional approach to strategy lies the assumption that by applying a set of powerful analytical tools, executives can predict the future of any business accurately enough to choose a clear strategic direction for it" (Kotler and Caslione, 2009, p.69). Nevertheless strategy is important but the herewith described approach towards a strategy could lead to one which neither allow the manager to take advantage of the opportunities arising from the crisis nor defend an organisation against its vulnerabilities (Kotler and Caslione, 2009). Furthermore Mintzberg (1996) argues that as a matter of fact, colliding intentions and changing reality leads to an emergent strategy over time. Taleb (2012) and Tseitlin (2013) go beyond and explain, that every random event brings its own opportunity in the form of a variation, which implicates the importance of keeping the strategy current and adopting it based on the changing circumstances.



In general and according to Hamel and Valikangas (2003), companies operating internationally face strategic challenges and companies need to show awareness and the ability to have alternative strategies that are in line with the external environment. Resources and capabilities have been discussed as important factors that can assist companies when facing uncertainties. Moreover Hilmerston *et al.* (2014) explains that an SME can be characterised by their flexibility and opportunistic nature of the firm, which is important in the strategy composition for managers. The SMEs have the ability to be flexible in their operations because of their size and can react fast to the environment and try to find new ways to take advantage of opportunities that arise (Kotler and Caslione, 2009, Hilmerston *et al.*, 2014). This means that their managers have to change the strategy towards the specific environment that they work in (Smallbone *et al.*, 2012; Vargo and Seville, 2011). Kaur and Sharma (2014) found a positive correlation between firm's strategy and performance. Managers focusing on trying to improve all areas of a business at all time has a higher chance for growth. Especially how managers strategize and adapt the organisation during times of economic crisis, affect their outcome and profit.

These findings are associated with Kaus *et al.* (2012), Vargo and Seville (2011) and Kotler and Caslione (2009) explanation, that managers have to be prepared for the economic crisis and should use a strategy with an entrepreneurial focus. Managers should have a plan ready for what to do and try to be creative in their approach to find new opportunities and do not underestimate the unpredictable. To have a plan ready, means for the managers to be proactive and be prepared for the emerging uncertainties like economic crises. Furthermore Kaus *et al.* (2012) concludes with, that the companies should not look for a sturdy and cost cutting strategy; they should instead get creative and use what they have and can find to expand the business.

Papaoikonomou (2012) and Kaus *et al.* (2012) elucidate, that on the one hand, managers in SMEs need an opportunity based strategy, especially in times of crisis to find new ways to make profit and on the other hand the strategy must fit to their situation and should not be too risky. Dervitsiotis (2010) stated that to offer the customers more and better products and services is one of the best ways to grow during times of economic crisis. However a strategy is not static and so managers have to find ways to compete

and adapting the strategy towards the situation to make the SMEs profit from the crisis and bring them simultaneously closer to the solution of an antifragile firm (Dervitsiotis, 2010, 2011). Kaus *et al.* (2012) and Papaoikonomou *et al.* (2012) gives the note that in times of economic crisis the manager should have a plan ready which means a strategy for what to do and try to be creative in their approach to find new opportunities within an entrepreneurial focus.

Researching in the field of strategy, leads to two main areas in which managers have to look into while creating an antifragile SME:

- Design versus emergence
- Seneca's barbell strategy

In the subchapter "design versus emergence" ways how to come to a strategy will be shown, while in the part "seneca's barbell strategy" which strategies are necessary will be discussed.

### **2.3.1 Design versus Emergence**

How SMEs should create their strategy is one of the most hotly debated issues in strategic management. While during the 1960s a highly formalized planning approach to strategy making was common, nowadays the emergence of strategy in adaptation to circumstances is well known. Furthermore strategy is seen as a plan to take the right decisions, also famous people like Lady Gaga or Queen Elizabeth show patterns in their career decisions, which look similar to a strategy although they did not create it in any systematic strategy making. This pattern is also visible in SMEs where one of the most successful ones is not an outcome of a grand strategic design (Grant, 2013).

As a manager you can choose if you want formulate a company's strategy throughout a rational systematic process on one hand (Porter, 1996), or on the other hand react fast to events in a turbulent world within guidelines and goals (Grant, 2013; Mintzberg, 1996). Nevertheless an economic crisis inhibit the strategic management design process like for example time pressure, response options, threat magnitude and severity (Vargo and Seville, 2011). Phillips and Su (2013) found, that there are two different strategy creation cycles. There is the classical management cycle, which applies in stable times and there is the classic cycle results in individual and organisational learning. This view shows similarities with Grant's view of design versus emergence strategy. Furthermore

Mintzberg differentiate between intended, realized and emergent strategies. The top managers design the intended strategy based on negotiations, bargaining and compromises made during the strategy-making process and is therefore a product of rational deliberation. However a realized, actual implemented strategy is around 10-30% of the intended strategy (Grant, 2013; Mintzberg, 1996). Managers adapt the strategy to changing circumstances by interpreting the intended strategy which leads in the realized strategy or named emergent strategy by following a complex process. Mintzberg (1996) criticized the rational design as far away from the details of the daily business and as based on that fact not a good approach for strategy design. Nevertheless the emergent approach to strategy making consists of a permanent interaction between the strategy implementation and formulation which leads in a learning process and calls for a constantly adjustment based on the growing experience (Grant, 2013; Phillips and Su, 2013). In a practical view the strategy making process almost always consist of a part of centrally driven rational design and of an adaptation part mostly decentralized. During the rational strategy design process, a number of organisational processes are necessary where strategy is discussed and decided. Although this insight, members of SMEs take decisions which simultaneously affect the strategy. This decentralized strategy emergence follows often a more formalized strategy formulation. Grant found, that in a lot of companies the strategy making process is a combination of a design and emergence and so called “planned emergence”. The predictability of the business environment in which the company works in, gives the decisive for the balance between strategy design and strategy emergence (Grant, 2013; Phillips and Su, 2013). During times of economic crisis where the business environment becomes more turbulent and less predictable, strategy making changes more into the direction of guidelines and general direction instead of detailed decisions. Grant (2013) named Bain & Company advocates as an example which used of strategic principles to combine flexibility with adaptability and keep a consistent focus. Also Vargo and Seville (2011) found that adaptability and flexibility regarding the strategy especially during times of economic crisis is very important.

### **2.3.2 Seneca’s Barbell strategy**

In his literature “Antifragile: Things that gain from Disorder”, Taleb (2012) describes Seneca’s barbell as a strategy, in which a barbell comprehends a solution to uncertainty. The author found that a so called bimodal strategy is necessary to maintain a balance

between the low risk ‘down’ and high risk ‘up’. A bimodal strategy has two distinct modes and not only a single, central one. Seneca uses the image of the barbell (a bar that weight lifters use with weights on both ends) to describe this strategy because of the combination of a dual attitude, and keeps the extremes separated by the middle. To compose a bimodal or barbell strategy, two visionary extremes are a necessity and there should be an avoidance of both in between. Furthermore, symmetry it is not required. On the one hand the managers should play safe in some areas to be robust against economic turbulences and at the same time they should take a lot of small risks in other areas. The combination of this in one strategy is extreme risk aversion and extreme risk loving at the same time in different areas and drives an SME toward antifragility. Moreover the “medium” risk attitude is not an option insofar as it can be subjected to huge measurement errors. Furthermore the barbell results in the elimination of the risk of ruin because of its construction. Within the barbell strategy it is possible to know the maximum loss which makes it calculable. Aggressiveness and paranoia simultaneously is the combination for antifragility and protect the company from extreme harm. “A barbell can be any dual strategy composed of extremes, without the corruption of the middle somehow they all result in favourable asymmetries” (Taleb, 2012, p. 389).

This approach is also supported by Kotler and Caslione (2009) in the book “Chaotics”. Kotler and Caslione (2009) call it a “two playbook strategy” in which two different strategies for one subject are found; one for down-markets and one other for up-markets. Another important part is to understand, that a manager has to fine-tune those strategies continuously or discard them if they didn’t fit to the environment anymore. The primary difficulty is the more managers’ change and fine-tunes the strategy; the more settle those strategies down because of adaption coming from stretches of normality or daily business. This matter of facts leads to unprepared situations when economic crisis occur. To have a better understanding, Kotler and Caslione (2009) developed the model the “chaotics management system” (Appendix B) and use it to detect, analyse and respond to turbulence such as economic crises. The system itself consists of the following three components

- Develop early-warning systems to detect sources of turbulence
- Building key scenarios to respond to chaos
- Selecting strategy based on scenario prioritization and risk attitude

Furthermore Kotler and Caslione (2009) name chaos in the same breath like turbulence. They describe chaos as a phenomenon which comes up throughout interruption or uncertainties like the economic crisis. As a fact managers have to deal with chaos and take the right decisions and therefore Kotler and Caslione developed the model shown above.

Kaus *et al.* (2012) explained that Managers have to be prepared for the economic crisis and should use a strategy with an entrepreneurial focus. In times of economic crisis the SME should have a plan ready for what to do and try to be creative in their approach to find new opportunities (Kaus *et al.*, 2012; Phillips and Su, 2013). This supports in parts the “chaotics management system” of Kotler and Caslione but not the entrepreneurial focus or entrepreneurial spirit. To work in extreme risk loving areas entrepreneurial spirit is necessary while the “old, settled, daily” business in the risk aversion area take place (Taleb, 2012; Kotler and Caslione, 2009). The importance of entrepreneurial spirit and opportunity searching approach, finding new personal and being creative to find new profits is that contradicts previous defensive theories of resilience and crisis management (Kaus *et al.*, 2012).

Today for the most managers it is common to manoeuvre companies under relentless pressure in an environment of economic turbulence within an economic crisis. With the right strategies the increase of revenues and profit-ability is possible and means the next step toward antifragility. The strategy is the core of a firm’s performance and the way they interact with the external environment. The different strategies of the SMEs are a clear factor in the success of the firm (Philip, 2011; Simpson *et al.*, 2012). On one hand the strategy must include the creation of an increased value through better products and services for the customers and on the other hand similarly, it must create its employees and shareholders an offer to greater satisfaction and trust. An effective differentiation business strategy achieves these goals best and can justify higher profit margins than its competitors (Dervitsiotis, 2010). Vargo and Seville (2011, p. 5623) found, that “disciplined application of planning processes for both crisis and for strategy are important factors in organisations’ ability to thrive in times of uncertainty”. But Kotler and Caslione (2009) show, that managers must see change first-hand. Managers must

eliminate the filters and must accept the inevitability of strategy decay. “While it is easy to admit that nothing lasts forever, it is more difficult for top executives to admit that one of their strategies is beginning to lose steam” (Kotler and Caslione, 2009, p. 79).

## 2.4 Opportunities

Peters (1987) explains that an opportunity is a chance for a company to change or expand the business. An opportunity is something for example: a new market or new technology that comes along that a manager can take advantage off to get ahead of the competition.

The identified opportunities below help managers to create an antifragile SME:

- Manager and networks
- Manager and innovation
- Manager and business resources

### 2.4.1 Networks

In an economic crisis the network of a manager plays an important role of the success of the SMEs organisation. Furthermore the network becomes an important tool for profiting from the current situation (Feindt *et al.*, 2002; Ramukumba, 2014, Simpson *et al.*, 2012). Managers are able to use their contacts and relationships to use opportunities and become antifragile. Using these networks in an effective way can be identified as a key factor in the success of a manager (Feindt *et al.*, 2002; Ramukumba, 2014). A network of a manager can consist of important relationships which can be used to support the firm (Lin and Lin, 2015). To maintain collaboration a manager has to continue working actively on these relationships to have the customers, suppliers and other parties close to recognize and take the advantages. Long-term growth implicates stable relationships as a main factor (Rockart, 1979; Ramukumba, 2014; Simpson *et al.*, 2012). However in time of economic crisis a network becomes more than just business as usual for managers. How active and knowledgeable a manager is has a positive relation on the performance of its firm (Crema *et al.*, 2014; Hilmeresson *et al.*, 2015; Papaoikonomou *et al.*, 2012). The network is a tool for finding information and possible partners which can be used by the manager. The network can be used by the manager to take advantage of occurring opportunities for the SME's flexibility and adaptability. The authors Andres and Round (2015), Crema *et al.*, (2014), Hilmeresson *et al.*, (2015),

Hilmersson and Papaioannou (2015), Mark *et al.*, (2013) and Papaioannou *et al.*, (2012) show indicators that the network of a manager can be used as one part to thrive in times of economic crises. Find new opportunities and create business potential out of the network is a manager's task. Use the crisis to the company's advantage, by don't try to cut cost but move the company's forward to find ways of growth potential. The growth potentials are for example resulting from new ideas for innovation, practices and new business opportunities. Furthermore affects a good knowledge of the network the firm and providing information of future developments and current market situations (Hilmersson *et al.*, 2015; Mark *et al.*, 2013). Hilmersson and Papaioannou (2015) found that the network the manager possesses provides the internationalization process of the firm. Papaioannou *et al.* (2012) showed that managers can engage in strategic cooperation and alliances in order to keep the performance of the firm in times of turbulence. To obtain revenue in times of economic crises the manager can find new ways through sharing the resources and information through these types of operations. Building a strong network is one opportunity to come closer to an antifragile SME.

#### **2.4.2 Innovation**

Innovation has long been recognized as a key driver of competitive advantage and a core area a manager should use in dynamic efficiency of markets and a competitive environment (Yeh-Yun, 1998; Feindt *et al.*, 2002; Ahuja and Katila, 2004; Dobbs and Hamilton, 2007; Dibrell *et al.*, 2008; Madrid *et al.*, 2009; Dervitsiotis, 2010; Love and Roper, 2013). In the present era of a global economy the need to find new opportunities that generate new revenues and profits become more important. The increase of never-ending uncertainty, leads to shifts from quality excellence to innovation excellence (Dervitsiotis, 2011). Dervitsiotis (2012) also found that especially with the beginning of the economic crisis a high rate of changes in the global economy is shown. It is a manager's job to deal with these changes and if they want to facilitate a company's adaption, innovation management is a powerful way to handle new conditions.

To talk about innovation and innovation activities in an international context, an international basis of guidelines to assess and define innovation activities is necessary. A general framework is provided with the Oslo Manual by the Organisation for Economic Co-operation and Development (OECD). Four types of innovation are defined within the Manual: marketing, process, product and organisational innovation.

(Psomas and Kafetzopoulos, 2014) Several determinants of small business growth are shown by Dobbs and Hamilton, (2007) in their empirical research where innovation is named as one significant opportunity for managers. A report from the London Business School listed Innovation associated with successful growth under the six most common factors (Feindt *et al.*, 2002). Love and Roper, (2013) come to the conclusion, that innovative managers in the long run perspective will be more efficient and help enterprises to grow faster. The result of innovative managers is shown in a positive correlation between innovation and firm performance in services and manufacturing companies during the economic crisis (Madrid-Guijarro *et al.*, 2009; Love and Roper, 2013). During times of turbulences as the economic crisis, the manager's should develop better products, better processes or a greater value gained by innovations and bring them together in a more effective business model to grow and gain profit (Dervitsiotis, 2010a, 2011, 2012). Moreover innovations can be used to adapt the marketplace environment and to become more flexible.

Although the knowledge of the innovation power is given, the investments in innovation (product, management and process) decrease during an economic crisis. As a result of this it is more surprising that despite less investment, a positive effect on SMEs performance is visible. However, the innovation is similar important during economic recession and economic growth. Kotler and Caslione (2009) show the top-ten mistakes a manager can make regarding innovation during economic turbulence. For example fire a company's talents, "cut back on technology, reduce risk, stop product development, allow boards to replace growth-oriented CEOs with cost-cutting CEOs, retreat from globalization allow CEOs to replace innovation as key strategy, change performance metrics, reinforce hierarchy over collaboration and retreat into walled castle" (Kotler and Caslione, 2009, p.57).

Furthermore network partners, customers and employees should be involved in the innovation processes by the managers, which show the interlinkage between innovation and the other opportunities (Crema *et al.*, 2014). The interlinkage is also shown by Naidoo (2010) if managers attempt reversing the flow of declining sales. Especially if the company is cash-strapped managers can use innovations to create an attractive strategy during an economic crisis. On a company's pathway to antifragility, the manager has to work with innovation management as a powerful way to improve the



company performance. Furthermore innovation management increase the firm's sustainability by supporting a firm's adaptation to new conditions (Dervitsiotis, 2010a, 2011, 2012; Madrid-Guijarro *et al.*, 2009). Innovations support managers to develop and sustain a competitive advantage, which tends to result in a greater likelihood of building an antifragile SME. To improve the overall effectiveness and operation of a company, the manager has to install mechanisms to keep the innovation process on going (Han, 2011).

### **2.4.3 Resources**

Under business resources Thornton (2016) understand “...*anything and everything that helps a company operate and do business. This can include the use of human capital, natural resources, tangible resources such as property or production machinery, intangible resources such as brand image and knowledge, financial resources and anything else a particular business may use to make a profit. Every business resource used to produce goods or to serve customers has an economic value.*” SME managers generally lack access to business resources compared to the way Large Enterprises have access to these assets. To acquiring enough business resources, SME managers have to be particularly creative. (Beck *et al*, 2006; Xiang and Worthington, 2015)

Regarding the availability of resources: there is a difference to be distinguished between intangible and tangible resources (Collis, 1991). According to a case study in the ‘Australasian’ market, SME's which are considered to be successful possess the following intangible resources: relationships and cooperation, knowledge and experience, marketing strength, human capital, production/R&D, strategic performance (Theingi and Purchase, 2011). Tangible resources, alternatively, are considered to be of lesser importance due to the fact that these assets are less likely to be of future worth and are therefore less valuable than intangible assets (Ibid). Also, the same case study shows that managers utilizing these resources for exporting (internationalization) purposes, their SMEs show a significant difference in performance when compared to other, less export-involved ones. Managers in “SMEs using network resources outperform those not drawing on network resources” (Theingi and Purchase, 2011, pp. 105) is not only in alignment with the importance of networking, but emphasizes the relevance of the internationalization aspect as well.

Managers that concentrate on the quality of their services or products are less likely to obtain financial resources (Rupeika-Apoga & Danovi, 2015; Xiang & Worthington, 2015). A strengthened business resources position will improve the manager's opportunity to make internal investments and perform M&A activities (Ibid). Regardless, managers that succeed in gaining access to business resources do not necessarily have to rely on loans, business angels or any other form of funding instruments. Especially the family-owned and managed SMEs show that revenue-generating actions rise above cost-cutting measures in terms of company growth. Company that were also self-financed to a larger extent showed a higher performance than companies relying on means of finance (Smallbone *et al.*, 2012). Rupeika-Apoga and Danovi (2011) have found that if a manager controls an SME that is in a larger extent involved in the internationalization process the availability of business resources becoming more apparent. Although the thought of an increase in expenses conflicts with the unavailability of the resources seems to be a paradox, the manager's main challenge is to obtain these assets to keep the company on going.

## 2.5 Motivation

During an economic crisis it might be hard to keep up motivations, with unstable times employees start to feel wary about their position and are concerned with retaining their job. The job might also become more difficult and demanding due to changes in the market (Kotler and Caslione, 2009). Blinov *et al.*, (2012) explained that in times of economic crisis there are different types of employees. Some have a high optimism that things will work out and some are very pessimistic that things are going to turn bad. Employees that see the future from a negative perspective will have a lower motivation. These people need to be motivated and the efforts of the manager need to be focused on keeping these employees active.

Smallbone *et al.* (2012) explained that managers leading SMEs during terms of turbulence that performed better, in a large extent didn't focus on cutting cost but instead trying to find revenue generating operations. SMEs should focus on motivating employees and try to increase sales, instead of cutting down staff and try to save money. This offers the possibility to increase staff during times of economic crisis, because during an economic crisis companies let people go and this becomes an opportunity for

managers to acquire new personal and new knowledge. Kotler and Caslione (2009) shows that firms that cut down a lot during economic crises, have a hard time to rebuild the moral they lost when the market turns. During times of turbulence the manager's impact on motivation in a company increases, making them the main force to keep a positive spirit. Motivation is important for a company because it keeps up productivity. Introducing employees to training and education can help to bring up moral and get employees to spark new ideas and keep moving forward.

### **2.5.1 Mind-set**

In order to thrive in turbulence a manager need the right mind-set. Instead of a being defensive a manager need to become tough. Believing in the company and being practical is key to thriving. A manager needs to be prepared for the situations to come and know what type of strategy to adopt to handle it. The natural response to crisis is to panic and do unplanned defensive action in a desperate attempt to save the organisation. Not being afraid for the changing environment and dare to change plans and strategies is necessary during hard time (Kotler and Caslione, 2009). A manager needs to have a love for adventure and embrace the chaotic environment. The crisis cannot be seen from a negative point of view. Instead a manager needs to be positive and see it as an opportunity. The manager that wants to build an antifragile organisation must love the uncertainty and adapt to the environment (Taleb, 2012). The managers need to adapt their way of thinking towards a mind-set that is more preferable for the company. The managers need to think ahead to what why they can find new opportunities (Hilmersson and Papaioannou, 2015). The manager's mind-set has to be implemented into the organisation. The manager's mind-set will affect the company and the outcome of the performance of the company (Kraus *et al.*, 2012).

It is important to start thinking forward and not focusing on what has happened before. Only looking backwards doesn't prepare for what unexpected might happen in the future (Taleb, 2007). A manager needs to plan for the short, mid and long-term. In the case of turbulence, only making a few adjustments is not enough for a longer period of time. The manager's mind-set needs to be adapted to both the present and the future. The change and turbulence need to be a part of the mind-set so there is no room for

choc (Kotler and Caslione, 2009). To become antifragile a manager cannot be shaken by the crisis but instead attack it head on (Taleb, 2012).

### **2.5.2 Employee motivation**

In times of economic crisis, the employees need to be motivated to keep up their performance. Different factors influence this motivation in the workplace, the employees need to feel as if they are contributing even during an economic crisis. That their work matters and that they contribute to the goals of the organisation. A pleasant workplace is also important for keeping up morale, a workplace where all employees work as a team with a positive atmosphere (Cristescu et al., 2013). Panagiotakopoulos (2014) explained that many managers try to use a fear tactic to keep up motivation in hard times. Believing that fear will make the employees work harder and keep up performance. In contrast the employees find this method demoralizing. Instead of working harder employees only feel anxiety and stress that has a negative impact on their work. Instead a more positive approach of motivation is suggested to keep the workers motivated. Qayum (2014) concurs with the negative effects of negative incentives to keep up morale. Instead managers should provide positive incentives to keep the performance up. Both financial and non-financial incentives during harder times can work as a booster to keep the motivation up. Especially non-financial incentives have a positive effect on motivation in times of crisis. Panagiotakopoulos (2013) explained that incentives in the workplace have a positive effect on motivations. Learning opportunities and team building exercises on site where the employees work together. These incentives give the employees and the organisation the motivation and drive to perform better.

Being motivated to work is related to some psychological prerequisites. An employee needs to feel that they are competent in their work, that they are a part of the organisation and have a feeling that they are somewhat in control. The employees need to feel like they are contributing and that they are helping the company forward. When employees feel happy in their work, some can even see big changes like an economic crisis as positive. It becomes a way to challenge the organisation and work with problem solving to create something better. There is also a correlation between knowledge from previous crisis and the way organisations handle upcoming ones. If a manager has survived a previous crisis they are more confident to take on the next. The

more experience an organisation has with crises the better they perform during these situations. The experience of different crisis needs to be stored and used in the future events. Managers then have a big responsibility to make sure the organisation learns so that they can keep up performance when the next crisis hit (Enander et al., 2015).

### **2.5.3 Communication**

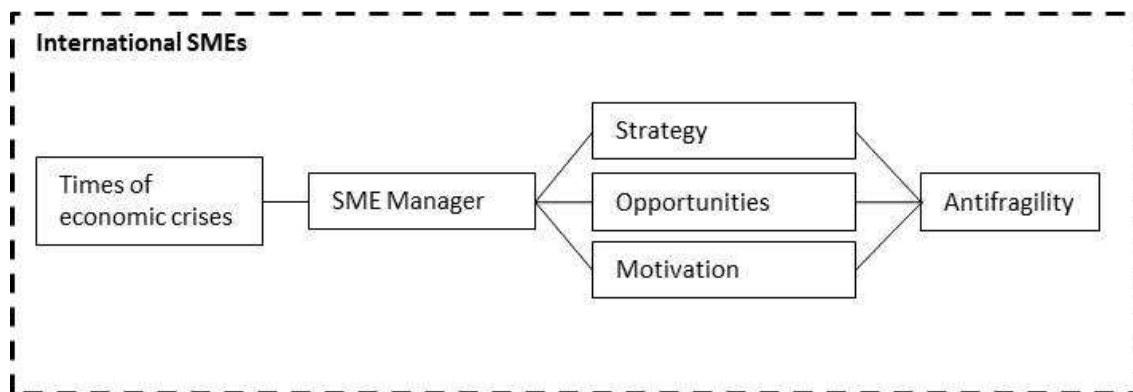
Kotler and Caslione (2009) explained that during an economic crisis it's important for a manager to speak often to their staff about how they are feeling and what they think is going to happen. Finding out the employees problems and finding ways to turn them around to something positive helps keep up motivation. Times of economic crises call for managers being more personal to their employees to let them know that the managers feel with them. Blinov et al., (2012) showed that during economic crisis a majority of employees in a company feel like there is a lack of information from top-management. The employees have a fear of what is happening around the company and is in need for reassurance from the manager. There is a need for information about the reasons for changes or new strategies. The lack of information creates the opportunity for rumours of what is going on that demoralizes the staff and negatively affects the performance.

In the time of crisis a lot of pressure falls upon the managers of the organisation. During these troubling times it's important for managers to show empathy towards their employees. To let the employees know that the managers feel with them in the uncertainty that's coming. The manager also needs to take actions and bring in new ideas and perspectives. Ensuring the employees that there is possible ways to learn from the situation and grow from it. The managers also need to lead by example in times of crisis and make sure that the organisations work as one unit. Managers taking charge during times of crisis helps the organisation move forward and grow from the situation (Powley and Powley, 2012). During an economic crisis it's important for the managers to create trust with their employees. Trust is built with transparency and frequent communication. There is a positive relation between good manager to employee communication and performance. Managers that invest themselves in their employee communication can create a positive culture. The positive employees are then motivated to keep performing in the external environment (Rašković et al., 2011). A manager that is defensive and evasive in time of crisis can hurt the trust and motivation. Managers

need to be open and truthful about the situation and how they will handle it. There need to be a strategy in place for communicating for the employees. Make sure that they are attacking the situation from the beginning and head on (Mazzei and Ravazzani, 2015).

## 2.6 Theoretical synthesis

In order to create the antifragile SME the manager is the key player. Using the three dimension make it possible for the manager to work towards the antifragile organisation.



*Figure 2: Theoretical synthesis (Source: Own Illustration)*

During the crisis the manager becomes more important. The manager is the one that creates and implements the strategies. How the strategies are created and followed dictates where the organisation does and what types of risks that are taken. Opportunities that present themselves need to be taken by the manager. The network presents information about changes in the market, innovations are ways to grow and resources are needed to make changes. Managers need to handle the aspects to utilize them the most. The managers are also the persons that need to motivate and create the mind-set the company needs during the crisis. Keeping a positive mind-set and making sure that the employees keep on working through the crisis. These three dimensions are working towards to create the antifragile organisation.

### 3 Methodology

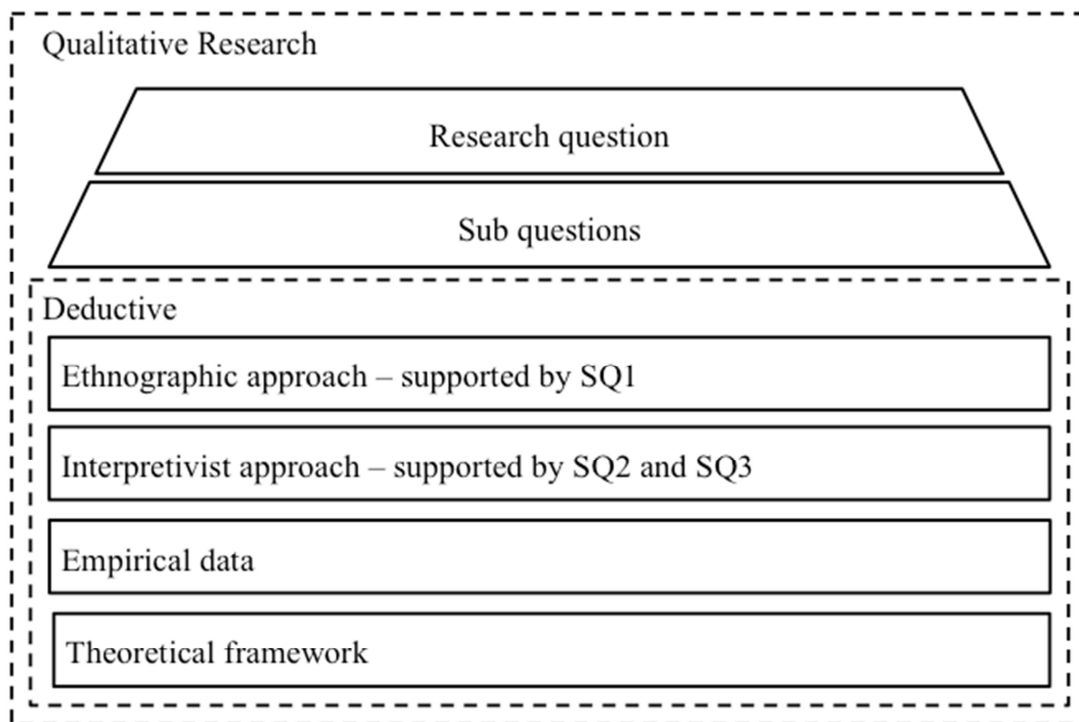
*In this chapter the methodology used in the thesis and the reasoning behind the methodological choices will be accounted for. The chapter starts with a presentation of the research approach, research method and research design. Thereafter, the selection of the interviewed managers and companies, data generation and data analysis will be accounted for, which is the basis for our empirical data generation. The chapter will end with a discussion concerning the research quality, where issues regarding credibility, internal validity, external validity and reliability are addressed.*

#### 3.1 Research approach

Although the availability of existing theories used in this report may vary throughout different topics, the research approach chosen for this study is deductive in nature. The deductive approach describes the process of exploring a concept by looking at theory and gather empirical findings, to then be able to compare the parts (Eisenhardt and Graebner, 2007). Due to the nature of the research requiring the researchers to consciously put effort in deducting the empirical data and therefore operate in guidance, a strategic concept is constructed: something that is less pronounced in for example an abductive approach (Schaecken *et al.*, 2000). The strategy to be implemented, however, is partially dependent on the acquired empirical data. The empirical data is to a certain extent unpredictable, that is, the data might deviate from that what is predicted. According to Maxwell (2013), the structured (deductive) approach makes it possible for the researches to compare data in light of different settings.

This study finds its origin in the theoretical foundation, where the research problem has been deducted from theory. Based on the former and due to the abundance of available literature regarding resilience, the international business environment and crisis context, a theoretical framework has been developed to assist in the choice of theories. Topics left to be discussed specifically regarding a qualitative research are the conceptualization and appropriability (Silverman, 2013). To determine the appropriability of theories, a distinction has been made between different qualitative approaches ranging from ethnographic to interpretivist approaches among others (Alvesson and Sköldbberg, 2009; Mason, 2002). Although ethnography is largely derived

from the field of anthropology, mainly describing the entirety of a certain culture, the phenomenon is not infrequently applied to the field of economics. In the latter case an ethnographic approach refers to the culture within a business or a defined group (Mason, 2002). Nonetheless, ethnography is a broad field covering a large part of field research essentially involving data gathering through observation (Maxwell, 2013). The interpretivist approach, on the contrary, defines a focus of understanding the reason behind qualitative research more thoroughly than the ethnographic approach, although it is perfectly possible for both paradigms to occur in the same study (Ibid). This study for example, holds its ethnographic value in how themes come to be of importance and therefore refers to the first sub-question of this research project. The interpretivist approach ponders questions such as ‘why does a phenomenon come about?’ and ‘how does it develop over time?’ (Mason, 2002), both of which are respectively represented in the second and the third research sub-question of this study.



*Figure 3: Research framework (Source: Own Illustration)*

### 3.2 Research method

The research method used in this study is qualitative in nature. This type of research, as opposed to a quantitative method, allows for the researchers to explore the ‘human



element' of the study topic (Given, 2008). Meaning that qualitative research relies on text and image data more so than quantitative research, and therefore also differs in terms of data analysis (Creswell, 2013). According to Alvesson and Sköldberg (2009, p.7), "qualitative research involves an interpretive, naturalistic approach to the world." The authors mention the research method to be set in a natural setting in an attempt to explain or interpret a certain phenomenon. Qualitative research therefore synergies well with the interpretivist approach mentioned before. This type of research method holds value over a quantitative method due to the modest scale of the study. Not only to emphasize the importance of the manager's role in crises circumstances and how their decision-making influences an international SME's operating, but to point out the existence of (antifragile) characteristics to achieve output that goes beyond resilience as well.

The qualitative data gathering method included seven semi-structured interviews divided over respectively four companies found in Kalmar, and the others in Broakulla, Alstermo and Nybro. The interviews have been constructed by taking a number of conditions into account. Foremost the aim of the interviews is to observe and understand the 'world' the interviewee finds itself in; what the interviewees' perspective is on discussed phenomena and how these matters are perceived independently. Second, the arguments the interviewees use to base their explanation on is relevant for the researchers as it provides insightful information of the interviewees' beliefs regarding a certain topic. Lastly, qualitative data gathering has been performed because of the lack of knowledge primarily concerning the research gap: how managers fill the space between theoretical foundation and that what is common in practical situations, something which requires the researchers to obtain empirical data (Easterby-Smith *et al.*, 2008).

### 3.3 Research design

According to Maxwell (2013), there are five components that address a comprehensive research design: goals, conceptual framework, methods, validity and research questions. The qualitative research design that is most appropriate for this study was a case study. As defined by Given (2008, p.22), a case study describes "the object of and/or the product of the inquiry." A distinction is made between single and a multiple case study.

As a matter of course, this study follows the guidelines of a multiple case study as there are several case companies involved in the process. Although the abundance of available research designs is plentiful (e.g., Creswell, 2013; Yin, 2014; Robson, 2011; Rudestam & Newton, 2007), Maxwell's approach has been chosen because of the internal cohesion of components. The relationship between components makes for the possibility of viewing the research questions from a different angle. Where in most research designs the research questions are seen as the starting point, they are the centre of attention in Maxwell's approach.

In terms of goals, this study describes the researchers' perceived problems, personal goals and participant concerns (Maxwell, 2013). These elements have respectively been discussed in the introduction, problem discussion and the purpose. Therefore, the goals as a part of the research design include the examination and exploration of a manager's role in the creation of an antifragile SME, as well as providing managerial implications in order to thrive, grow and profit from the circumstances. The second aspect of Maxwell's research design, the conceptual framework, consists of existing theory and prior research, exploratory and pilot research, thought experiments and preliminary data and conclusions. Apart from preliminary data and conclusions, most of this data is represented in the theoretical framework, in which the researchers found that despite the scarcity of literature regarding antifragility, there is a lack of information on how SME managers utilize the available assets to work towards the concept of antifragility. And additionally, the identification of key success areas and a manager's approach to deploy these key success areas successfully in order to make the organisation flourish in economic crises. Methods elaborate on the research setting, researcher's skills and preferred style of research as well as the research paradigms. Correspondingly: semi-structured interviews, inductive and partly abductive approach, descriptive in nature. Validity overlaps with several elements such as methods and the conceptual framework as it describes existing theory and prior research, as well as thought experiments, research paradigms and preliminary data and conclusions. Both internal and external validity are ensured by triangulation of sources, methods and theories. But also avoidance of bias and the search for discrepant sources. Lastly, the research questions are supported by the four preceding elements, making for a solid foundation of an integrated and interactive whole. The research questions themselves are substantiated by Silverman's (2013, p.95) "puzzle" structure, which aims to identify what puzzle the

researcher is attempting to solve. Together with Mason's (2002) view on the intellectual aspect of the formulation of the research questions, the structure looks as follows:

- How or why did X develop?
- How does X work?
- What causes X or what influence does X have on Y?

This format does not directly relate to the sub-questions but instead have been modified to justify the main research question. For that reason the researchers were able to cover the development, mechanical and causal conditions of the main research question (Silverman, 2013). The development aspect is incorporated in the first sub-question by asking how managers became important, that is, in the development of the antifragility concept. The mechanical component ("How does X work"?) has been altered and implemented in the second sub-question. Instead of asking how antifragility works, which is not something the researchers are able to do due to its derived conceptual shape from theory, the researchers asked why critical success areas are important. Answers to this question could clarify information directly related to the concept of antifragility as well as the manager's thoughts on this concept. Lastly, causal conditions are represented in the third sub-question by explaining the utilization of CSA's which are found by the second sub-question. In this case: how does a manager's utilization of CSA's contribute to an antifragile SME?

### 3.4 Selection of the case companies

In order for the case companies to fit the research purpose, the researchers formulated criteria as a precondition. The most significant precondition is the size of the company. The company had to conform to the size of an SME, which by EU standards is measured according to economic activity, staff headcount, annual turnover and the extent to which the enterprise is operated (in)dependently (European Commission, 2003). The industries in which the case companies operated did not play a significant role in the selection process, as it was more so the manager's perspective on strategic decisions and policies, rather than the dependency on industries the researchers examined. Naturally, the researchers preferred to have an even distribution among industries, as case companies from the same industry may imply sector-specific dependencies, thereby affecting the (external) validity.

Semi-structured interviews were constructed according to the following interview motives (Easterby-Smith *et al.*, 2008): the necessity of understanding the presence of subjectivity from the interviewees' side, the aim of the interview to develop an understanding of the interviewees' "world" and lastly, there is a lack of the step by step logic of certain business activities. With these aspirations on the one hand, the study was limited by the time frame on the other hand. A limited timeframe prohibited the researchers from conducting a primary analysis in a larger geographical area, which conceivably influenced the representativity of the study. Within the context of non-probability sampling, this study's company selection is based on purposive sampling since the researchers had a clear image of what sample units were needed before potential sample members were approached to check eligibility (Easterby-Smith *et al.*, 2008; Mason, 2002; Maxwell, 2013). These criteria and conditions resulted in a total of seven selected case companies presented in the table below.

Company	Interviewee	Position	Active since	Industry	Work force	Location	Date
AMB	Tomas Magnusson	CEO/ Owner	23 years	Plastics	160	Headquarter, Broakulla	03-05-'16 10:00 – 11:00
Amokabel	Henrik Blad	CEO/ Owner	> 7 years	Cables	130	Headquarter, Alstermo	13-05-'16 09:30 – 10:40
Ariterm	Staffan Lundegård	CEO/ Owner	> 10 years	Heating	140	Headquarter, Kalmar	13-05-'16 14:00 – 15:00
Bending Group	Tomas Ragnarsson	CEO/ Owner	22 years	Furniture	100	Headquarter, Nybro	03-05-'16 13:15 – 13:45
Luma Metall	Mats Holmqvist	CFO/ Owner	13 years	Wires	20	Headquarter, Kalmar	02-05-'16 14:00 – 14:50
Rörvik Timber	Johan Jaensson	CFO/ Plant manager	2005-2011	Timber	120	Kalmar*	04-05-'16 09:00 – 9:45
Trelleborg Sealing Solutions	Anders Broberg	Marketing Manager	> 7 years	Polymer Solution	250	Headquarter, Kalmar	04-05-'16 13:00 – 14:05

\*(The interview from Rörvik works at the headquarter Electra in Kalmar right now so the interview was made in Kalmar even if the company is not located in Kalmar)

*Figure 4: Company table (Source: Own Illustration)*

### 3.5 Data generation

Instead of speaking of ‘data collection’ the term ‘data generation’ is applied. From the researchers’ perspective, data is not collected, as this would imply there is an already existing stock of knowledge, ready to be implemented without the alterations or interpretations of the researchers. Generation of data is used instead to emphasize the researchers’ relationship with the social world, and the ability to interpret and process knowledge according to its context (Mason, 2002). More precisely: to generate knowledge underlines the epistemological capabilities of a researcher better than referring to the collecting characteristics of data gathering (Given, 2008).

#### 3.5.1 Secondary data

Secondary data typically describes existing data published by other researchers. The skill of the researcher is demonstrated by his/her ability to seek correlations and explore new patterns, hence, generate data (Mason, 2002; Easterby-Smith *et al.*, 2008; Given, 2008). This type of data is often developed for purposes other than the study itself, or studies related to the one the researcher is investigating. The benefit of using secondary data within the field of economics is that this domain relies heavily on public or corporate data and theories (Ibid). This study’s theoretical framework is entirely assembled from secondary data. Generation of data applies where the combination of data from different fields of interest merge. For example, the theme ‘antifragility’ originally derives from the psychological domain. The researchers examined the possibilities to extend its applicability to the field of economics, more specifically: an SME manager's influence on the phenomenon during times of crises. Although several authors have substantiated significantly to the main theme of this study (e.g.: Taleb, 2009, 2012; Kotler and Caslione, 2009; Mintzberg, 1996), there are numerous authors who contributed to the main study topic. The theoretical framework adds to familiarity with existing literature to ensure that the research is not merely a repeat of studies that have already been done (Easterby-Smith *et al.*, 2008).

#### 3.5.2 Primary data

Besides secondary data, generation of data also refers to primary data, in which the researchers’ direct efforts through - in this case - interviews, lead to originally obtained knowledge. The value of primary data is that it might give the researchers new insights and greater confidence in the outcomes of the study (Easterby-Smith *et al.*, 2008;

Given, 2008). Although secondary data gave the researchers incentive to investigate further into the study topic, it was primary data that contributed to the relevance and actuality of the research topic. This inductive approach eventually leads to answering the research questions.

Primary data actually emerges after the interviews have been conducted, and the transcriptions have been interpreted accordingly. Analysis of each individual transcription, which is a two-dimensional written prose of the lively experience of an interview itself, enables the researchers to repeatedly and more easily ascertain specific passages (Given, 2008). The authors have opted for this type of primary data generation due to the complex and rather unexplored nature of the topic itself. When it comes to generating qualitative, primary data, researchers are confronted with several methods, ranging from observations to focus groups. After reviewing the options and outcomes, the authors decided only to incorporate semi-structured interviews as a source for primary data. This is partly a matter of convenience-sampling (Given, 2008) the semi-structured interviews provided the opportunity of obtaining the autonomous opinion of interviews on the same matters; this was the more favourable option. If the table of selected case companies is examined in chapter 2.4, it becomes clear that the authors gathered seven unique perspectives on each individual manager's role in the creation of an antifragile SME. Other than this motive, one of the criteria for conducting semi-structured interviews was the requirement of interviewing a managing director, as his/her opinion is prevalent in the operation of SMEs.

Before the conduction of the interviews took place, the authors constructed an interview guide (see Appendix C) by which every interview occasion would elapse. The interview guide contains the main themes and supports the research questions to ensure that the red thread of the study is adhered. The semi-structured nature of the interviews made it possible to have an 'open' conversation in which the interviewee was able to speak freely about his/her opinion of for example the manager's mind-set on employer motivation. While on the other hand, themes regarding headlines of the study topic such as the design versus emerging nature of strategy found its return in every single interview to guarantee the red thread is maintained. By doing so, the authors were also able to identify different opinions and perspectives of managers on the main topics. All

interviews were conducted in attendance of all the researchers in a face-to-face session at the site of the concerning companies. The interviews took 30 to 80 minutes in time.

### 3.6 Operationalization

Operationalization of concepts describe the development of specific research procedures (operations) such as the dimensions and supplementary concepts shown in the table below that provide the reader with appropriate knowledge to assimilate further implications (Alvesson and Sköldberg, 2009). Berg and Lune (2014), describe the operationalization process as follows: “to ensure that everyone is working with the same definition and mental image, you will need to conceptualize and operationalize the term.” This, the authors have done by accumulating the terminology and referring to the concerning questions in the interview guide (Q1.1 - Q3.3). An overview of the full operationalization is found in the table ‘SME managers in times of crises’ below.

SME Managers in times of crises	Personal questions		A	
	Overall questions		B	
	DIMENSION 1 Strategy	Design versus emergence	Mintzberg (1996), Porter (1996), Grant (2013)	Q 1.1
		Seneca’s barbell strategy	Taleb (2009, 2012), Philip (2011), Kaus <i>et al.</i> (2012)	Q 1.2
	DIMENSION 2 Opportunities	Networks	Feindt <i>et al.</i> (2002), Simpson <i>et al.</i> (2012), Hilmersson <i>et al.</i> (2015)	Q 2.1
		Innovation	Feindt <i>et al.</i> (2002), Dervitsiotis (2010, 2011), Kotler and Caslione (2009)	Q 2.2
		Resources	Thornton (2016), Smallbone <i>et al.</i> (2012)	Q 2.3
	DIMENSION 3 Motivation	Employer motivation	Cristescu <i>et al.</i> (2013), Enander <i>et al.</i> (2015)	Q 3.1
		Mind-set	Kotler and Caslione (2009), Taleb (2012)	Q 3.2
		Communication	Blinov <i>et al.</i> (2012), Powley and Powley (2012)	Q 3.3

*Figure 5: Operationalization methodology (Source: Own Illustration)*

### 3.7 Data analysis

According to Easterby-Smith *et al.* (2008), there seven stages of data analysis to be distinguished: familiarization, reflection, conceptualization, cataloguing concepts, re-coding, linking and re-evaluation. Essentially, these stages describe a step-by-step procedure of data interpretation up until the point where the researchers have a clear understanding of emerged patterns and correlations. This phenomenon occurs in the second-to-last stage of Easterby-Smith's data interpretation: linking. Linking is also commonly referred to as cross-sectional indexing (Mason, 2002) or cross-case analysis (Silverman, 2013). In this stage the theoretical codes are developed by conceptualizing how patterns integrate into a holistic theory. Linking takes place in the analysis and theoretical synthesis, where the concerning findings are compared and analysed in search of correlations. These correlations eventually led to the conclusions and managerial implications.

#### 3.7.1 Determination of the source material and questions

The source material is the data material from the interviews. If it is not possible to find a clearly decision related to one of the criteria, the worst possible solution will be chosen. The interviews were recorded in single interviews with the persons and companies as written in the Table in chapter "Selection of the case companies". The participation in the interviews was voluntary. The recorded interviews were transcribed within one week after the last interview. In the transcriptional the following rules were kept:

- A completely and literally transcribe with the content in the foreground, which means that we omitted >>ahm<< and similarities.
- Dialect colorations were not taken in account.
- In case of ambiguities the interviewees were asked via email to clear the situation.
- In case of breaks, stoppages or else, a dash were inserted.

The interviews were not focused on the emotional condition of the surveyed, rather on the content connected to the Theory. The Interview partners should take a stand to their practical experience with economic crises. Furthermore the importance of strategy, opportunities and motivation from a manager's perspective were discussed. The data analysis will be done based on the content analysis running model by Mayring (2010) (see Illustration in Appendix D).



In this part the determination of the source material (material establishing, analysing the genesis situation and formal material characteristics) based on Mayring (2010) has been done. The question of the analysis (in the direction of analysis and theoretical differentiation of the issue), the determination of the analytical technique, the definition of the units of analysis, defining the analysis steps by category system and the compilation of the results is carried out in the following chapters.

### **3.7.2 Evaluation method**

The real evaluation of the interviews is carried out by a content-wise structure. For the evaluation of the interviews, Mayring (2010) evaluation method which is called "content structuring" is used. The aim of the analysis is to find the aspects within the material which are structured by using fixed regulatory criteria to access the material based on criteria. In the representational case primarily the manager's role to thrive during the economic crisis and the critical success areas should be identified. The structuring is based on a deductive dimension application (Mayring, 2010). The Illustration in Appendix E provides a concrete idea of the evaluation method. The interview evaluation can be found in the Appendix F. In carrying out the analysis it is to be noted that the interviews of each partner are considered as an analysis unit. In addition to vary according to the individual measures a generalization as an upper dimension. The content analysis was conducted with the use of Microsoft Excel.

## **3.8 Credibility**

For both the reader and the researcher it is important to have an understanding of the credibility of the research in order to reach a sufficient level of analytic induction, representativeness, generalizability, validity and reliability (Silverman, 2013). Especially the latter two elements of credibility are commonly discussed topics among qualitative research. Quantitative research is more frequently associated with the evaluation of credibility as this type of research is more easily measured than qualitative research (Easterby-Smith *et al.*, 2008). However, the fact that no statistical tests have been conducted and the qualitative approach focusing more on an abstract level of data analysis, does not mean that this study holds less credible value than it would have when it had a quantitative research approach. In fact, a qualitative research approach involves sophisticated theoretical demands and methodological rigour (Silverman,

2013). Because validity and reliability encompass the credible majority for this study, these concepts will be explained more detailed in the next paragraphs.

### **3.8.1 Internal validity**

The validity of the research indicates the degree to which used measurement tools - not merely the qualitative methods - fulfils its purpose (Drenth and Sijtsma, 1990). Some economist describes validity as one of the most crucial factors in the conduct of research. Cronbach (1970, p.121) does so by giving validity a research its highest priority, and formulates the case more precisely: “No matter how satisfactory it is in other respects, a test that measures the wrong thing or that is wrongly interpreted is worthless.” Validity in this regard, can be divided into internal and external validity.

Internal validity refers to whether a study shows a causal relation between independent and dependent variables. In general, a study fulfils its internal valid purpose if the study indicates that there is a low representativity of confounding (more than one possible independent variable explaining a dependent variable). The less pronounced confounding in a study, the higher the internal validity (Kelley, 1927; Easterby-Smith *et al.*, 2008). There are numerous threats that may impede internal validity of this study such as history (variables being looked at acting unexpected), maturation (variables being looked at aging, therefore leading to bias) and mortality (variables being looked at participating from the start to the end) (Easterby-Smith *et al.*, 2008). In order for this study to reach internal validity, the effect of the aforementioned threats have been reduced to a minimum. Maturation and mortality for example, refer to the variables - the observed SMEs - and their aging process as well as the time of participation in interviews. A crucial criterion for participation in this study's primary data collection would be the survivability or experience with the financial crises from 2008, as it would not make sense to interview managers who have no experience with, or knowledge of operating in turbulent circumstances. Therefore, the observed companies had to have an age of at least eight years. Additionally, a method for increasing the internal validity of this study by decreasing the exposure to threats is usage of the concept triangulation (Creswell, 2013; Silverman, 2013; Maxwell 2013). Triangulation describes the process of utilizing different data sources in order to come to a coherent conception of a certain phenomenon (Ibid). By accessing information through multiple approaches, the researchers were able to ensure an increased level of accuracy, thus adding to the

internal validity of the study. A certain degree of triangulation has been adopted where this study has been composed by three authors, augmenting the overall objectivity of the study. Furthermore, empirical findings have been compared to the theoretical foundation to ensure the causality between variables. Triangulation synergies particularly well with internal validity because it enabled the researchers to eliminate any possibilities for the study to be dependent on confounding: the sole purpose of internal validity.

### **3.8.2 External validity**

External validity, as opposed to internal validity, is concerned with the extent to which results are generalizable beyond the boundaries of the study itself (Kelley, 1927; Easterby-Smith *et al.*, 2013). Easterby-Smith *et al.* (2013, pp. 87-88) demonstrate its applicability according the following example: “In the physical sciences we assume that Newton’s Laws of Motion will have equal validity whether applied in New York, Bogota, Xi’an or in other worlds.” The principles of external validity are essentially identical to the aforementioned example: results and findings from this study ought to be of relevance within the same research field. If results and findings differ, there should be a clear way of understanding how these outcomes function in various circumstances (Ibid). External validity is that sense closely related to representativity, as it describes the extent to which results will implicate similar findings in a wider range than the scope of the research itself. Projecting this understanding on the current study, that would imply that a majority of results that conclude from the empirical research only impact SMEs which find themselves in the construction industry (in its broadest sense). However, since the research questions of this study primarily concern the operationalization of the company and its manager’s influence, the field the SME operates in is less of interest when it comes to the validity of this study. Nonetheless, all interviewed managers from the approached SMEs were situated in the Småland region. Geographically seen, this should not alter the validity of results. Hence, any of the conclusions or recommendations could interpreted in with ‘Swedish SMEs’ in mind. Although the previous could also be taken up in the limitations of this research, one way to enhance external validity is to avoid sources of bias. Bias, primarily consisting of threats such as the product of selection of individuals and organisations, as well as validity in setting and history, are reduced to a minimum to demonstrate external validity (Easterby-Smith *et al.*, 2008). Results were not affected in a way so that the

interviewees might put the company's legitimacy in a positive light. Interviews mostly concerned the manager's view on past crises and their experience. In all cases, there was no reason for the interviewees to withhold information as these events occurred in the past and possible secrecy does not alter any current situations. Therefore, interviewees were not held back in answering questions in a bypassing manner: something that possibly could have negatively affected the research's external validity.

### **3.8.3 Reliability**

Reliability refers to the extent to which the findings can be replicated while the approach is consistent across the different projects in which the same reliability-enhancing tools or instruments are used (Creswell, 2013). Reliability in this study is therefore associated with the accuracy of research methods and techniques. In general, reliability applies exceptionally well to quantitative data studies because of the standardization of these research techniques as well as cross-checking of the gathered data. Measurement tools which are meant to measure the same thing results in more consistent outcomes over time (Mason, 2002). Qualitative data on the other hand, is more dependent on trustworthiness and credibility by conducting iterative analyses. This type of analysis is considered reliable if a reliability coefficient of .60 is met, that is, there is 60% agreement between different conducted studies and the implemented research methods are similar (Given, 2008). This percentage is rather low when compared to a quantitative type of research but is explained by the subjective nature of qualitative, which in general is open to interpretations. Regardless, reliability within qualitative data analysis plays an important role and researchers should aim for an as high as possible reliability coefficient no matter the circumstances (Given, 2008; Mason, 2002).

To achieve the preferred outcome of a high level of reliability, results should be linked to revealed data and findings should illustrate an accurate representation of the intended outcomes (Given, 2008). This is done so by conforming to the credibility infrastructure that is used to ensure the validity, as this infrastructure also relates to reliability-levels of this study. To name a few methods: triangulation, clarification of bias - which have been used to ensure validity-related components - but also usage of external auditors as well as verification of discrepant information are vital to the study its reliability (Creswell, 2013). External auditors have been asked to review the paper throughout the

course of the development of the research. What distinguishes auditors from debriefs is that these externals are not familiar with the subject, the researchers would ask acquaintances without prior knowledge to judge the paper on its readability, accuracy, internal cohesion of findings and several other criteria. As for the verification of discrepant information: real life cases (empirical analysis) do not necessarily consist of components that always coalesce. The primary analysis therefore consisted of both corresponding as well as counter-corresponding perspectives in regard to the discussed themes. This provided the researchers with contrasting data, defining extremes of variables, hence, adding to the overall reliability (Ibid).

However, there are occasions in which the reliability of the empirical analysis could have been improved. For example: the conducted interviews have been recorded with two recording devices to avoid the possibility of loss of data in case either one of the recording devices failed to work properly. Even though two recording devices have been used, there have been incidents in which surrounding noises impeded the quality of the recording. Another case (Amokabel) describes an interview in which colleagues interrupted the interviewee several times, thereby affecting the overall quality of the transcript. For future references, a closed off room should be arranged to ensure noise cancellation and the uninterrupted process of the interview.

## 4 Empirical findings

*This chapter presents the information gathered through the interviews with the seven companies. Furthermore a short introduction of the companies is given. The information is presented company by company to make it easier for the reader. Following the structure of the operationalization all the findings are presented.*

### 4.1 AMB Industri AB

#### 4.1.1 Basic company information

The AMB Industri AB is a family-owned company in the third generation and is mainly working in the medical sector. AMB's production facility is in Broakulla in the south east of Sweden and the sales offices are placed in Lund and Nora, also Sweden. AMB works within the fields of tool making, injection moulding, surface treatment and assembly and offers therefore the whole processing chain. The enterprise is one of the global leaders in surface treatment of hearing aids and cleanroom injection moulding of medical instruments and disposables. The company is working as a subcontractor and is to a big part self-financed.

#### 4.1.2 Strategy

##### *Design vs. emergence*

Within 2006 the cellular phone segment of Siemens and Ericsson were sold to a Taiwanese company which stopped immediately all payments in Europe. Therefore a strategic change for AMB from telecom to medical industry was necessary because of the shift in the market. Nevertheless the decision that medical industry is interesting has been made before the crisis. During the telecom era, AMB was building a lot of flexibility into the company because of the fast changing products and short life cycles of the mobile phones. Nevertheless, AMB never would have found the industry of painting hearing devices (8 million hearing devices/year) without having an open mind-set. For some complex products AMB tries to have the full responsibility to tie the customer to the complex automatization and production process by increasing the service level. The company is looking for complexity within a product in general and not for a specific market like medical or electronic by trying to find new fields and this

makes the growth of more than 15% during the times of economic crisis possible. A company have to find out where the risk of a project is and for example in the medical needle project it was to find the right supplier for the automatization and the equipment to produce the requested product. During the times of economic crisis the manager works more.

As a lessons learned from the crisis AMB tried to reduce the share of customer revenue to a maximum of around 20%. Furthermore the cross functional meetings where people from different functions within the company come together were implemented during the economic crisis. Increasing the service level at a customer, for example from painting only to a full service provider is also one step AMB has taken during the crisis to make the customers more independent on the company. The change from a painting supplier to a vendor managed inventory service provider is one example. But the above named steps were not made based on a plan. It was more based on the situations that occur. AMB has a continuously planning for events that could happen. For example a supplier went bankrupt or the CEO gets killed, etc. This is required by some customers and we train this kind of events (company crises) every 3-4 years within a scenario and plan than for the immediate and act. We have a team of people dealing with these events. Strategy sometimes is often just a word for something companies mean it is important and for AMB to use strategy like said is the wrong sense. If you are flexible and open minded, then you don't have to be fast in your reaction because you adjust at all the time automatically. The prioritisation how AMB is doing business is the following: Always safety first and environment, quality and delivery. At the end comes economy. If you have good quality, and you deliver on time, "*you will see that the Soliditätet, solidity, solidarity or solidity, is very high.*" (Magnusson, 2016). Furthermore the external professional board and a quick decision making because of the ownership makes AMB which is supported by a flat organisation with only three levels of management (CEO, middle management, operators).

### ***Seneca's barbell strategy***

Especially when the AMB managers started to write down a strategy paper, they decided to be open minded to everything what happens around. If there is a customer or a request asking for a solution, they never say no to the request in the beginning. AMB always look quite deep into it. For example the company tried to paint a hearing device

on a painting line for mobile phones and after the start with a few hundred pieces, nowadays they paint 4 to 5 thousands a week. Search for new fields by screening the market and try to set up new businesses. AMB grows during the times of the economic crisis 2008/2009 because they had the crisis two years before. It was possible because the company had just added several medical projects into the company. Furthermore, the company knew that there is a need to change the MRP system, so they did the change in 2009 because they knew that not many companies could afford it. Moreover by changing such a system, always a few consultants are need, which were available at that time. So AMB used the crisis everybody else had.

#### **4.1.3 Opportunities**

##### ***Networks***

AMB has an external board with professionals from different industries. Although it is a family owned business it is not family run, because of the external professional board. The board consists of a professor, a legal, an industrial and a medical person. AMB tries always to listen to customers, but also to suppliers. Suppliers are sometimes the best customer you have; cause they give you quit a lot of tips. Trying to work with suppliers in a long-term relationship makes this possible. AMB have quarterly, half year or annual meetings within the company and try to have some cross functional meetings with the customers and with the supplier. For example Perlack, a Swiss paint supplying company comes to AMB to test a new developed painting system in production scale. A manager has always to talk to people to figure out if the products are good or if an idea could become successful and we do this by using the network. To lower down the risk sometimes it is necessary to get the hands on the patents behind. Within the networks it is also important to have good relationships to banks and provide them with the information they need.

##### ***Innovation***

The crisis for AMB was in the year 2006 where the telecom industry dropped down, which ends up in a complete change of the products produced. A shift has to be made from telecom to medical industry which was only possible with new innovations from AMB, suppliers and customers. AMB can see all new innovations out of their networks as for example if Perlack a painting system supplier is testing a new painting system at



AMB. By taking opportunities, and using the openness, AMB catches also new innovations like for example a special needle protection system for the medical sector. The company get a lot of request from new inventors all over the world and have to find out if a project is interesting or not. And even though a project is started it is not sure that it will become successful.

### ***Resources***

The basic resources like the production facility are available. This means that they have a good facility with a lot of flexibility from the telecom era. For AMB to be flexible is one of the important key success areas. Furthermore the employed staff is identified as another critical success area and a yearly questionnaire the company sends to their customers underlines this importance. AMB is very good at project management because of a very short product development time (3-4 months) which is based on the project knowledge of the telecom industry. AMB use suppliers for ideas and tips and has many processes in house. Know how in painting applications underlined by the test of new painting systems by Perlack, Switzerland. The company has one R&D person, searching for new technology continuously. If there is an opportunity for new business, AMB check it and if necessary a new investment will be made in production facilities like for the production of the medical needles head protection as an example. You have to have money to be able to move in the way you want to move as a company. Which is good, when you have crisis situation, and of course you can't trust on this solidity situation? Magnusson (2016) found that *"you have to have a cash-flow, otherwise it is impossible"*.

#### **4.1.4 Motivation**

##### ***Employee motivation***

Quick decision making is something that people appreciate. If people have been employed at AMB and left the company to work for some other multinational company, several of those tend to come back. AMB try to bring in the motivation and mind-set by using a so called company rules book (the red thread to success). The content consists of the owner perspective (where we are and where we come from), vision and the idea, the offer, the value chain, the targets, the strategy and the values at AMB. Motivating people by openness and give them the information what is happening in the company.

### ***Mind-set***

During times of crisis for AMB the necessity of change was the same as without a crisis. People have to change all the time. People use to change and they worked with AMB during the hard times in 2006 during the times of crisis. From the beginning of the company AMB wants the people always to be open-minded. AMB wants to know what happens around the company and they have an open thinking, which means listen a lot. At AMB there is the mind-set to try to help customers and see what is coming out. AMB managers are always looking for opportunities and try to take them if possible and if the opportunities fit into the company. By using a company rules book AMB tries to give each and every employee the same information and mind-set because they think if the people have the same mind-set they tend to make the same decisions. Making profit is not the main goal of the company. In a family owned business it is more long-term orientation. The company should survive longer and therefore AMB always aims for a long-term solution even though if the way to the solution is harder.

### ***Communication***

During the times of crisis AMB had to lay off people but by talking to them and giving them information, the employees could understand the situation of the company and therefore they did not damage the company. The communication was always on the same level without the influence of good or bad times. To find fast answers to a lot of employee questions, AMB developed with their employees together the company rules book. In this book for the most questions answers are given. With all new employed people the CEO of AMB is sitting together ½ day and work with the company rules book so that every employee has the same information and mind-set. For employees openness is very important and so the company has quarterly meetings to give them information about investments, new products (AMB is looking in), profit and loss, good and bad news of the customers. Another thing is that the employees must know at all the time who is leading the company. So this explains why the change from the old managing generation to the new managing generation was done in one day. The new manager came in and the old left at the same day.

## 4.2 Amokabel

### 4.2.1 Basic company information

Amokabel is a privately, family owned, Scandinavian group of companies producing different types of conductors, cables and consumer packed products selling international. The main factory and head office are located in Alstermo, Sweden. The company offers flexibility in the production and short delivery times. Amokabel is focusing on high quality and minimal impact on the environment, and therefore the company is always working on new innovations and developing new products. Furthermore the Enterprise invests in wind and water power to become self-sufficient of green energy. The first company in the Amokabel group was founded in 1992. A constant pursuit for growth leads to several new establishments of producing companies during the 1990's. During the 2000's Amokabel has started two sales companies in Norway, and become part owners of factories in India and Hungary.

### 4.2.2 Strategy

#### *Design vs. emergence*

Amokabel has a strategy where the managers look into mergers and acquisitions. The company try to use their own capital to make investments and focus on growth and strategies and do not work too much with risk management. Amokabel has a 5-year-plan in which it wants to build up a bigger group of distributors and manufacturing plants. Regarding to all economic crises, the company has been through, even in the 90's, they used it to invest heavily. One key to success for Amokabel is to make sure that it has a very strong financial position within a long-term strategy. *"The number one key to success is to make sure that you have a very strong financial position."* (Blad, 2016). If the financial position is not good, a company ends up in a situation in which their own cash flow or capital is too small to be able to use the crises to their advantage. During a crisis decision-making must be extremely fast. For example if a board of directors of a big company want to make a decision such as: "let's close an entire department or company somewhere due to the crisis" and this decision was made in January 2008, it is not executed directly, and takes too much time. So after a couple of months, everything is different and the market starts picking up again and then they realize that they have to start again but they were still executing their downsizing. So

then end up in a “moment-22” (catch-22), a situation in which they are always a little bit behind. So when it comes to executing decisions fast, it really has to be fast. There is no time for extensive analyses and there is the need of a flexible organisation.

In the 2008 crisis, they had some negative results in some departments and the managers just waited and observed because they knew prosperity would return.

Amokabel had a policy in which they kept their employees; no one was laid off during this time. The company does not have a pre-planned strategy because there is no time in an entrepreneurial company to plan for crises. A manager needs to act when it happens. All this kind of planning is just a theoretical thing because when the crisis comes, a company needs to deal with it, in those specific circumstances. A manager can never give an accurate forecast of what is going to happen or how it is going to affect your business. How would it be possible to make a plan, not knowing how the crisis will look like? The Amokabel board members and owners meet directly if something sudden occurs and the company has a good position in the sense that any changes affect them quite early. If a car manufacturer runs into a crisis they stop buying cables for the cars and therefore Amokabel can directly notice. To be affected by the crisis in an earlier stage, it is easier for us to respond to it. Furthermore the strategy is to be prepared for prosperity. Because when the market rebounds, the company has to be ready. On the one hand, Amokabel tries do not deal with customer agreements which ties them too much and on the other hand, they do not have any agreements with suppliers to purchase a certain volume.

### *Seneca's barbell strategy*

Amokabel took the crisis easy and started a lot of new projects which they were able to engage in because of the crisis. During crises it is actually tempting to buy machines because of the low prices, there is huge capacity for machine making and there is about 50% reduction on all services like consultancy to extent some business areas. For example Amokabel decided during the crisis to set up a new plant and purchased both wind- and hydropower and they bought a company in Hungary. The company gained a lot from the crisis. Today things for Amokabel are actually more complicated, as of now there are no presence of a crisis, at least not in Scandinavia. Instead, Amokabel has problems with increasing salaries, increasing prices of raw materials, and increase in prices for consultancy, everything becomes more expensive. The economic growth in

general is a little bit too strong for the company. Costs are following the growth but during the crisis everything was actually much easier and affordable. 80% of the Amokabel customers are buying the products constantly. But the focus of the manager is on other, new products and new constructions, high segments.

#### **4.2.3 Opportunities**

So many opportunities arise during crises. When the last crisis hit, new possibilities occurred which Amokabel could not have foreseen but they take opportunities day by day. Which is interesting because when everything is going as planned in a 'normal market', a manager do not focus on other segments. The crisis forces a manager to think out of the box.

#### ***Networks***

Amokabel started in expanding the sales network. Today they have their own office in Finland, Norway and in Poland and distributors in the Netherlands, UK, Denmark and some other countries. But there are more markets for them like Russia or the Middle East, China or any other country sales offices in different branches has to be set up.

The distribution network is the most important and to establish a long-term relationship with the bigger distribution networks is a goal but it is difficult to find the right distributor. Sometimes Amokabel use their competitor network to help each other if they have a product which they cannot produce to ship it over to someone else in the market. A key to success is information, especially if you are situated in a location like Alstermo, which is quite distant from everything.

#### ***Innovation***

New innovations are a key for the company's sustainability and growth. Amokabel has 8.000 products in the company and they add one or two every day. One example is Remotely Operated Vehicles (ROV) which is the cables that lay at the bottom of the ocean. Furthermore dealing with the crisis in Norway because of the low oil prices, Amokabel has to search for new market opportunities because their customers have stopped the orders. So the CEO there has a completely new strategy: really out in the market, trying to find new products. Now Amokabel has signed an agreement with the biggest fish farmer in Norway to make cables for the big nets they catch fish with. That is something the managers have never really thought of before. Never shut the door for

new opportunities that may arise. Look at one of Swedish' most successful companies: Sandvik Coromant, they have a lot of products coming in. When they started they did not know they will end up having the best mining tools. But a manager should try to grab as many business opportunities as possible. Blad (2016) said about innovation that *"it is the key; it is everything to us"*. All innovations or product developments in Amokabel are pushed by their customer. It is not like the company creates a new cable without there being a demand for it in the market.

### ***Resources***

If you have money in the bank, the crisis is a really good opportunity to invest, or to finance a company's survival. Furthermore the key is a combination in the balance sheet of cash, inventories and machines, and being careful with decision-making. Blad (2016) explained that a manager have to make sure that the company have enough *"cash in the bank because by doing so"* the company *"can also survive a crisis. The problem with a lot of companies is that they have ended up in a situation in which their own cash flow or capital is too small to be able to use the crises to their advantage."* As a company you need to be really fast and flexible, in order for your technicians and sales guys to focus on new segments. This is interesting because when everything is going as planned in a 'normal market', managers do not focus on other segments. Amokabels strategic planned growth becomes more difficult in Alstermo, because they need good staff and the more you grow in these local locations, the more difficult it is expand. Amokabel is focusing all resources towards the customer and not internally by having one hour meeting a day only, no financial department and try minimize all the administrative costs because the customer is not willing to pay for it. Amokabel is using the entire plant in internal space but the machines are producing up to 50% to 60%. So they have a lot of capacity left. Profit-wise it is better to have the machinery producing near to 100%, but they will lack the ability to add a lot of new projects or if for example a customer wants to place a new order.

#### **4.2.4 Motivation**

##### ***Employee motivation***

Amokabel give the employees incentives like partial ownerships and good wages to motivate and engage them for the company. For example the technical manager owns

4% of the company. Furthermore instead of trying to persuade the employees with a high income, they make them feel more committed to the company by giving out parts of the shares for the management to create a long-term engagement. Amokabel also tries to avoid too much turnover of people because it results in loss of experience and low engagement.

### ***Mind-set***

The managers know that crises come and go but it does not stop them from the business they do. It is not that they will reduce their warehouse stock because there could be a new price; it is just for to handle it when it comes. In a small board of directors who want to push the company forward, everyone should have the same point of view.

The managers maintain a strategy to grow by keeping the profit Amokabel makes. Nevertheless, the employees including all managers and the CEO trust each other blindly.

### ***Communication***

Amokabel talks immediately with its customers if there are changings in orders so that they know what is going on to react on this. The communication was not different with and without the crisis, means having meetings on a weekly basis. The manager informed the employees that Amokabel will not let someone go during the time of crisis and they set up a maintenance group to deal with their real-estate like painting and such to calm the people down.

## **4.3 Ariterm**

### **4.3.1 Basic company information**

Ariterm is one of Scandinavian's leading manufacturers of bio-fuel heating systems. Development and manufacture are in Sweden and Finland. Ariterm has a century of tradition but bubbles with creativeness and the will to be in the lead in environmental, effective and functionally-safe heating techniques.

### **4.3.2 Strategy**

#### ***Design vs. emergence***

Ariterm was going really well with a peak in the year of 2006 in sales. Company was going very well and was bought by an equity firm. But then the economic crisis hit Ariterm very hard, in one day 90% of all the market was gone. The company was forced to downsize a lot until the point that they were starting to make profit again. The equity owners loaned all the money for the company and did not only have cost but also big debts. It went so bad that the manager Lundegård and 2 of his colleagues eventually bought the company for 1 SEK in 2011. Take on all the responsibilities and the debts of the company. In order to stabilize the company the managers used very thought out design strategies. Working with banks and creditors to work off the loans and reducing the debts. Make plans and strategies for where the company wanted to go and how they were going to work. The managers have made B, C and D strategies and situational plans for what might come. Try to make sure that the company can always stay afloat.

#### ***Seneca's barbell strategy***

Due to the bad situation of the company, the managers downsized the product portfolio as much as possible. Only trying to focus on the core business and the products that have a high profit margin. Discontinue or selling off all other businesses that is not worth the time and effort. Working with blue ocean strategy to find a place where the company can grow. Move away from any risk that might occur. But the hard times did teach the managers to try to think creatively to stabilize the company. One thing they learnt from the crisis was that, before more or less all their business was located in Sweden, because it was a booming market. The company put all their effort into expanding it and in one day it all went away and the market was dead. Make the company putting a larger focus on more markets to find new segments and working in different ways with every segment.

### **4.3.3 Opportunities**

#### ***Networks***

Ariterm is very dependent on networks with the manager working a lot with lobbying and being a part of branch organisations. The networks are a good way for the company



Politicians have a big say and have many ways to affect the company. The rules and regulations about the energy market and oil market directly impact the organisation. Lobbying toward subsidy systems, higher prices on fossil fuels and towards a more renewable world, helps the company. If more companies and people would start using renewable energy the company would sell more. In the branch organisations Ariterm works together with competitors, to be able to have a stronger voice towards the politicians. But one problem is that politicians are not easily accessible in all countries. But for example in Finland where Ariterm has one factory it's much easier and talking to your politicians is a part of business.

### ***Innovation***

Innovation is an important part of Ariterm, they are always trying to think about what the next or second next generation is going to be like. With R&D taking a very long time, they plan years before when it comes to product development. The engineers of the companies can use 20-25% of their time for new inventions and innovations. However during the really hard time of the company the investments into R&D had to be reduced, slowing down the innovation process.

### ***Resources***

Ariterm has a good plant with a lot of good employees. Get a hold of resources isn't a big problem. The prices might go up and down and the company need to bind a lot of resources of time. But Ariterms problem has all been with equity, coming from a place of great debt. Focus has been on reducing and writing of debt. This means that a lot of administrative resources and time has been put into working with banks to get the company going again. For the type of products Ariterm make there is a lot of money available to get for in the market. Different organisations and governmental programs can help with funding for new products or project. However those funding demand that the company puts in about 50% of the cost. Make it hard for Ariterm to take part of those alternatives.

#### **4.3.4 Motivation**

##### ***Employee motivation***

Lundegård explained that 25% of his workforce were not interested or didn't really care about the company. During crisis they would keep working and as long as they get to do what they do, they would be happy. The other 75% was spurred to keep fighting, having a love for the adventure and wanting to bring the company forward. But the people that are not ready to fight or that don't have the motivation to be in a company that works in an unstable market would leave the company. However in a small company that Arterm, Lundegård believed that employees become very close with the company.

##### ***Mind-set***

The mind-set of the manager is to stay positive. There is a belief that the fundamentals for the company are right. The environmental focus and going renewable is the future, all they need to do is work hard and convince the world that they need their products. A risk reduced mind-set is in place, if something cannot be proved to be profitable in the future, it won't be made.

##### ***Communication***

Communication was one of the most important aspects of the crisis when it came to motivate the employees. Being absolutely clear about all the information, not hiding anything and explaining the situation is a key in crisis. But it always has to be done from a positive side, always make a positive note out of it. It differs a lot from stable and prosperous market conditions, where a manager has the opportunity to exaggerate and spur the employees even more.

#### **4.4 Bending Group**

##### **4.4.1 Basic company information**

The Bending group deals in sub-contracting and has two manufacturing plants, one in Nybro and one in Örsjö, both in Sweden. The company is working with wood steel and textiles manufacturing furniture fittings/details, complete pieces of furniture and interior fittings/fixtures. The value chain consists of processes like mould, press, laminate, bend, punch/die-cut, weld, solder, grind, polish, lacquer/varnish and sew (upholstery). The

Bending group offers the whole process from the drawing stage to the finished product. This enables them to supply the complete systems.

#### **4.4.2 Strategy**

##### ***Design vs. emergence***

During the time of crisis 2008-2009, Bending Group kept to their original strategy for making business. The company operates in Scandinavia with their biggest customers being in Denmark. They had their same strategies with an overall downturn in their entire market. Bending Group sits between suppliers and customers that are far bigger than themselves. This meant that when the crisis hit they weren't in position to make any big calls but instead just do what the market demanded. The downturn was met with some alterations with cut-downs in production and staff. The problem being fewer orders from the customers, cutting down on staff and production was the only way to save money. Of a 100 employees 5 needed to leave the company, due to a loss of work orders. Bending Groups way of competing is flexibility and knowledge. Due to being much pressured in cost the production has to be flexible and work together with the customers to be able to compete. The company don't have a strategy formed or planed if a new crisis would happen tomorrow. If there were to be a bigger downturn in the market the company would have a hard time to survive.

##### ***Seneca's barbell strategy***

Bending Group stands on 2 legs with one part furniture production and one part producing trays. During the crisis 2008-2009 the furniture production was the dominating source of income for the company. In this market the biggest change was that market went down in terms of orders. But development of the market and the products weren't affected. New designs still hit the market even if the overall production was down, showing signs that some companies kept an offensive attitude. The tray market was a very small part of the Bending Group at the time of the crisis. In the tray production 30% is being exported with the other % being domestic. The tray business is a part of the company that has grown a lot in the last few years. From being a very small part during the crisis it has become a bigger part in the yearly revenue.

#### **4.4.3 Opportunities**

##### ***Network***

In Bending Groups market, there is a good relation between the competitors or “partners” that exists in the Scandinavian market. The competitors’ don’t have a hard time to talk to each other and they try to work together for the good of the industry. Instead of trying to “hit” each other during the crisis they collectively stayed still and waited out the crisis. The biggest real competition comes from Poland and the Baltics, where the companies can compete with lower prices due to lower wages. Bending Group being in the position of being a small actor with big suppliers and customers has very little say and are very dependent of the other actors. For future expansion of the company, Ragnarsson says that they need to find a good customer and partner that they can grow together with. Otherwise the company will stay in the direction they have now.

##### ***Innovation***

Prior to the economic crisis of 2008-2009 the company did some larger investments in the machines of the production plant. During the crisis no investments were done but after the tray production had bigger investments. The investments before the crisis meant that the company didn't need to do any changes in production during the crisis. Instead the company was well suited for the future after the crisis.

##### ***Resources***

Bending Group didn’t have any problems finding supplies for the production they did have. However there were big fluctuations in the prices of the raw material. The company always tries to be cost efficient but during the time prices went up and down more than usual. The market did however stabilize after the crisis to more normal standards. Banks during the times of crisis are harder to get a hold on. If a company has anything red in the books getting help from banks is very hard. Using banks to save the company is not an option. However if a company wants to invest, then get financial resources from banks is never a problem.

#### **4.4.4 Motivation**

##### ***Employee motivation***

The employees of Bending Group took the crisis relatively well, an understanding in the world economy made them accept the situation. People leaving the company had a positive effect on the personal that stayed in the company. The employees feeling grateful that they are the ones that got to stay. Ragnarsson felt that people get more intimate with the company during a crisis. The employees that get to stay get motivated to work hard for the company to keep it afloat. The people understand that they are an important part of the organisation that contributes collectively to the company.

##### ***Mind-set***

The mind-set of Ragnarsson was to stay calm and wait out the crisis. To try not to be that inflicted by the crisis and keep working as usual. Ragnarsson understood that he cannot run the company himself but instead the survival of the company during the crisis had to be a collective effort. As well as keep a cost-minded focus to keep down costs and save money. But also Ragnarsson explained that the company want to keep the work opportunities they have in the future.

##### ***Communication***

During the crisis Bending Group tried to keep up the information within about what was going on and the understanding workers helped keeping the motivation up. But Ragnarsson said that of course some employees might take the crisis hard. It is hard for a manager to know what to do when he is not at work anymore. After the crisis the company has the goal of improving the communication and interaction with the employees. To try to set up goals for the workforce to motivate it further.

### **4.5 Luma Metall AB**

#### **4.5.1 Basic company information**

Luma Metall is specialized in manufacturing ultra-fine and thin wire products. The production and headquarter is located in Kalmar, Sweden. Luma Metall has 80 years of experience in fine wire drawing and gold plating of ultra-fine wire. The wires have a thickness of one tenth a hair. The company developed its own thin wire manufacturing

process and also design the equipment. The products were used in several products like medical, antenna systems, testing advices of electronics and printing systems. Furthermore the company is offering their technical knowhow as a service.

#### **4.5.2 Strategy**

##### ***Design vs. emergence***

When the manager Mats Holmqvist comes into the company 12-13 years ago (from 2016), the company was doing very badly. The company was producing coils for lamps and the market was very bad. His first job was to understand the profitability of the organisation and the organisation was in bad shape and they had a big crisis. But then a business angel from the US came into the organisation and saved it. The business angel and Holmqvist turn the organisation around, cutting down business that wasn't profitable. Then slowly turning the business around and around 2009-2010 the business was profitable. The company was forced to rethink what they were doing and start looking into new ways of business. So company change their strategy towards the medical industry, printing and antennas.

##### ***Seneca's barbell strategy***

A big focus on the medical industry helped the company; the medical field is a safe one. The company can make a lot of money and it is a field that will continue. Focus on the medical market especially in other countries gives the company great chances for expanding. Many of the antennas are for satellite and communication, and are governmentally financed. This means that the medical industry and antennas are not that affected by fluctuations in the market. Reduce the risk in the company. The company had a big crisis after the economic crisis of 2008-2009, where the company faced claims on some of their products. The problem was the customers using the products in the wrong way. But to strengthen the company and make sure that it wouldn't happen again the company hired 2 doctorates specializing in metals. This gave the company both knowledge and experience that they could use for future development.

### **4.5.3 Opportunities**

#### ***Networks***

Luma Metall has very good relations with their customers due to them having long special projects. Their owner, the business angel, had been working a lot, owning a bunch of different companies. The networks give Luma Metall many contacts that helped them when they worked themselves out of their crisis. The manager works a lot with the suppliers, and suppliers are not seen as suppliers but as partners.

#### ***Innovations***

The innovation of the company is largely based on the 2 doctors working in the company's lab. Innovations are a part of their whole business plan. But their products are very special and it's fine chemistry making the metal stick together.

#### ***Resources***

The company buys a lot of rare metals, during crisis the prices fluctuate a lot during crisis. Holmqvist joked that during the crisis it was impossible to get a hold of a bank if you needed anything. But now that the company is doing well and the times are stable the banks are calling, asking if the company need anything. But Luma Metall was lucky to get the business angel, when the company had their crisis, he could put more money into the company. Save the company when they ran out.

### **4.5.4 Motivation**

#### ***Employee motivation***

Luma Metall jokes that they are immortal, the company has been on the brink of bankruptcy many, many times but come back. Motivation is not affected that much by the crisis but the business angel have made it clear that the organisation wouldn't exist without him.

#### ***Mind-set***

#### ***Communication***

During the crisis it became more important to communicate with the employees. Explain everything that they were allowed to hear. Not keeping things secret.

## 4.6 Rörvik Timber AB

### 4.6.1 Basic company information

Rörvik Timber is a foresting company, with at time of 2008 had 7 different sawmills all around the southern parts of Sweden. The company produce different types of wood and export the majority of it Europe and North Africa.

### 4.6.2 Strategy

#### *Design vs. emergence*

During the time of the crisis of 2008-2009, Rörvik was taken completely off guard. Having very successful years prior and having the highest profit in 15 years at the start of 2008. The company had made great investments only thinking about the short future and believing that the great growth would continue. When the crisis hit, the company tried to wait it out believing that it would only last for a half year or so. However more or less all orders stopped in the market. Force the company to adopt a cost cutting strategy, reducing all mills from three shifts to one day shift. There was also a big problem with customer not paying, when the market went down all payments stopped. This forced Rörvik to use governmental intermediaries to secure payments. A great adjustment that required a lot of administrative power to handle was needed. This was a new way of doing business and took a longer time than before. The huge decrease in orders in the market created an increase in the company stock with products that couldn't be sold.

#### *Seneca's barbell strategy*

With the company bleeding financially the managers tried to fit the production towards the new market situation. That meant to reduce the production and focus down on niche markets. The development towards niches, gave the company higher margins on revenue. During the crisis the timber mills were brought to a halt. This meant that the managers shut down the mills to make improvements in the production. Making changes and testing new alternatives that were not possible before due to too many orders had now become a priority. Focusing on what could be changed in the production and how to make it more efficient and fit for the market ensured that Rörvik was ready for the time after the crisis. *"The way we were in 2005-2008 was so good, that*



*everything that we earned was reinvested in the company. But we were too optimistic...*” (Jaensson, 2016). The company adopted a less risky strategy towards the end and after the crisis. The company only tried to do projects that “were already in harbour” and that they knew that they were getting paid for. Doing this made sure that the company did not overproduce and could control the profit margin of all projects easier.

#### **4.6.3 Opportunities**

##### ***Network***

Rörviks network provided with information about what was going on and what was happening in the market at the time. But Rörvik eventually ran out of money during the crisis and went into reconstruction. This hurt the image of Rörvik quite a lot, because when they eventually got new finances and the reconstruction was finished their reputation was tarnished. Customers expected the company to go under again and that made them choose other suppliers first. This meant that Rörvik had to put big efforts into working up the relationships again.

##### ***Innovation***

Before the crisis of 2008-2009 hit the company invested more or less all their profits in improving and expanding their saw mills. Doing what they could to increase the production to meet the extreme amount of demand in the market. The problem with the investments and improvements of the mills was when the crisis hit the company had no money to buffer the hit with. With the lack of money the managers had to downsize all the mills. To handle the changes in the market, Rörvik started to focus on making niche parts of the wood. Try to change towards products with higher margin. With the lack of orders the company did maintenance work and tried to optimize the production so when the market picked up they would be ready for it.

##### ***Resources***

Resources in terms of wood and production plant were all there and were never a problem. The mills had special machines that made it possible for them to make their niche products. However the lack of orders meant rising stocks, luckily wood can be in stock for over a year without any problems. The big problem in the market was cash.

Everybody, suppliers and customers, postponed payments in any way possible, trying to keep the money in-house. Nothing would be paid unless somebody was screaming or threatening the other party. The lack of money was the straw that broke the camel's back and sent Rörvik into reconstruction. Not having money paralyzed the company. Going through intermediaries or trying to make payment plans, was ways to try to save the company but only help the company in small aspects. The big lesson learned was a lack of liquidity and a low solidity in the company makes the company vulnerable to change.

#### **4.6.4 Motivation**

##### ***Employee motivation***

In order to keep motivation up when there was nothing to do. The managers tried to keep the employees busy with teaching and fixing smaller things that they didn't have time with before. Letting employees learn new skills and operate other machines from each other. The crisis created a lot of rumours within the workforce. Somebody knew something that somebody else didn't know and after a while false information and rumours become facts. Sending people home and letting them off also affects the workforce motivation.

##### ***Mind-set***

The managers tried to keep thinking about the world of tomorrow, that the market would eventually change. Try to keep the heart of the organisation and everything that was vital to it. Focusing on the most important parts to keep the plant ready for the time when the market turns. Keep a good mood and motivation high even though the market was down. As a manager Jaensson also had his doubts and had problems staying energized.

##### ***Communication***

Due to the fact of people starting rumours management had to be very open and direct about what was going on in the company. Jaensson said that the employees are very intelligent and most of them understand what is going on. There is no reason or need to keep anything hidden, transparency and honesty is very important. Without transparency one will lose trust and the credibility from the employees. Giving them as

much information as possible and also giving it at the same time was very important. That put many rumours to rest and removes any confusion.

## 4.7 Trelleborg Sealing Solutions

### 4.7.1 Basic company information

Trelleborg Sealing Solutions was founded in 1988 and is a global supplier of premium sealing solutions mainly to the automotive sector. The product range includes O-Rings, hydraulic seals, rotary shaft seals, oil seals, static seals, pneumatic seals and mechanical face seals which are sold to various industries. Trelleborg Sealing Solutions is located in Kalmar and belongs to the Trelleborg group which expanded internationally during the 1950's. The offices are in Kalmar, Sweden and in Gävle, Sweden. The R&D office or technical centres are in Shanghai and Detroit.

### 4.7.2 Strategy

#### *Design vs. emergence*

Trelleborg was affected by the crisis in 2008 because main customers like car manufacturers cancelled their orders. But Trelleborg deliver its products also to the aftermarket, which increased during the crisis. Nevertheless the company lost 25% of the sale within two years. The saviour for Trelleborg Sealing Solutions was the aftermarket. But Trelleborg is a big group and they pulled the brakes to understand the crisis situation and the Sealing Solutions got a lot of directions during this time. Cutting down the costs like travel expenses and stop hiring new employees where made as a Trelleborg group decision. But the harder the brakes were hit, the harder it will be to get the wheel spinning again after the crisis. Trelleborg sealing solution knew this and the managing director played it 'cool', where he tried to hold off Trelleborg Group as much as possible and kept the staff.

The crisis situation was new for Trelleborg, because the company was not used to dropping sales rates. If employees where send home your company will not be ready to supply again when the need is there and you might lose your customers. But when you are in the crisis itself, it is all about surviving. Trelleborg has a lot of continuance plans so if something happens, they know how to react. The company is quite big for an SME but still small enough to be flexible and deal with these kinds of situations. The key is to

adapt to the situation. With a mother company looking down on the situation and trying to control all the companies, steering them in the same direction, might make things more difficult. No recruitment of employees, no unnecessary travel expenses, all the investments are brought to a halt. For example Scania kept all of their employees and put them in training, while Volvo, fired the majority of their workforce. When prosperity within the automotive industry started to return, Scania had all the in-house knowledge and experience to produce trucks again. It was obvious that Volvo did not have an easy time and needed much longer to prosper. Trelleborg also need skilled operators for our machinery so it was wise to keep the skilled people, otherwise you would have to recruit new employees and train them which, in the end, is more costly.

### *Seneca's barbell strategy*

In the 1970's Trelleborg was in a crisis where the production of car and truck tires were phased out due to the crisis. The lessons learned was that in the 1980's and 1990's Trelleborg become more of a conglomerate. The company bought a lot of different companies, for example, an ice cream company, mining companies, distribution companies and so Trelleborg became a company which owned a lot of different companies. From 2000 and on the focus was back on the industrial sector so Trelleborg sold the mining company and the ice cream company to focus more on the core competence of Trelleborg. After this period, the company started to buy companies in that field of work instead. In the summer of 2008 exactly before the crisis, Trelleborg signed a contract to buy a company (stamp nearly 100% of all the shims), so that was a costly investment. Furthermore the company signed for an investment to extend the production unit during the summer of 2008. Lastly, a company manufacturing 'pre-treated' steel pushed Trelleborg to buy their production line because of the low worth for them. Buying this company saved Trelleborg money in the production and made it possible to buy raw steel from the open market. Would the decisions of Trelleborg Sealing Solutions have been made two months later, the deals would have been stopped by the mother company because of the crisis. With these three investments that the company made, a profit increase of 12% to 15% took place. The strategic decision for the above mentioned investments were taken, but the investment itself would have been made a few years later if the contract would not have been signed before the crisis. Trelleborg Group is a big company and some companies supply to the medical or food and beverage industry and it seems they were not as affected by the crisis as others.

They survive anyway, because there is always a need for these goods. But as a mother company, Trelleborg group stopped everything. It has to become apparent that the company is the first priority and needs to be saved. Trelleborg have since the crisis tried to have a third leg standing outside the automotive industry because of the dependence. To be in the construction industry, the medical sector or something else that stabilizes the business. But Trelleborg could have explored that a little bit more during the crisis.

#### **4.7.3 Opportunities**

##### ***Network***

Trelleborg focused to understand their customer's situation as well as their customer's situation. This is a quick way of finding out how the market is developing and where it is moving: information is a key to understand what is going on by using the network. This is important in a downturn as well as in an upturn to understand the business potential or risk.

##### ***Innovation***

During the time of economic crisis, Broberg (2016) found that *“a company becomes creative, where you start to think about new ways of saving and generating money.”*

Trelleborg also do research on Noise Vibration Harshness (NVH) laminators used on car components, Apply Damping Material (ADM), it is put on an engine to make it quieter and Sheer Plate, it sits between the oil pan and the engine block to reduce vibrations. At the moment those are development products.

##### ***Resources***

In 1992 the company became part of Trelleborg Group; mainly to be able to invest in things with the financial strength and power of the Trelleborg Group. To have a mother company, to make investments, cash is needed and therefore a health mother company like the Trelleborg Group is important. Furthermore the cash flow, good margins and a lot of cash inside the company helps. A company can generate a lot of margin, but at the same time lack cash due to longer payment terms. All of the customers extended their payment terms because they had a crisis going on also. One of the key success factors is to do not pay the suppliers until you are more or less threatened. Keep the money inside the company as long as possible. Broberg (2016) said that *“a general rule when it*

*comes crises is; cash is king!*”. But if a company only generate 2% of profit, it do not have any cash to live on, which results in customers not paying, the company cannot pay the suppliers eventually leading to bankruptcy. A company has access to information and can find the necessary information all over the world and which is valuable. In 1988 Trelleborg’s factory where hit by a big fire and all of the machinery was burned, completely depreciated. The company was already a big supplier in the automotive industry and fifteen days later they were already up and running again. At that time Trelleborg had an enormous crisis in the company itself of which everyone was devastated about.

#### **4.7.4 Motivation**

##### ***Employee motivation***

Instead of lay off a lot of employees, the Trelleborg employees took out some holidays. It was not hard to keep up motivation of the employees during the crisis. People normally work for a long period at Trelleborg like a family-owned business. Employees get recognition and are loyal to the company.

##### ***Mind-set***

The managing director of Trelleborg sealing solutions played it cool during the crisis used the time to prepare for the comeback. At all the time Trelleborg had a strong managing director with charisma. He took all the strong people on board and had a clear goal, very directive, military almost and that was what inspired most of our people. Broberg (2016) found, that for a manager *“a crisis situation also means”* that you *“have to be proactive and learn to understand”* the *“customer's situation as well as their customer's situation.”* This he believes is the quickest way of finding out how the market is developing and where it is moving. *“The information is key to understand what is going on.”* (Broberg, 2016)

##### ***Communication***

For Trelleborg to share information with the employees during the crisis was very important. People know a lot out of the news and so an open communication is important.

## 5 Analysis

*This chapter consists of an analysis of the theoretical framework and empirical findings, which respectively have been presented in chapter three and four. Instead of maintaining the structure of the empirical findings, the analysis addresses each area and theme separately, after which the induction of the case companies is determined. The part of antifragility and management is integrated into the areas to work towards the answers of the research question.*

### 5.1 Strategy

As a part of strategy, the designing versus emerging nature of an SME's approach to the market was vital to this study, as it showed to what extent the manager is aware of the company's current position and surroundings. For example: if a manager is to implement a strategy throughout a rational systematic process (Porter, 1996), or reacts fast to events due to turbulence and manages to achieve its goals nonetheless (Grant, 2013; Mintzberg, 1996), that determines the orientation of the manager. The empirical findings showed that most managers were not reluctant towards implementing an emerging strategy. Even though it is not sure whether some companies purposely called this a 'strategy' or that it was merely an ad-hoc kind of business response. Both AMB and Amokabel, for example, incorporated a long-term (intended) strategy (Mintzberg, 1996) for a period of five years or more, but both companies also focused for a great deal on new developments in the market due their product involvement with rapidly changing market demands (plastics fabrication and wiring industry). These companies experienced the financial crisis of 2008 as a positive influencing factor on their businesses, where AMB grew with 15% in sales, and Amokabel made a yearly profit of 10%. In terms of strategy, Aritem, Bending Group and Rörvik Timber did not utilize the crisis to increase business potential. Aritem, for example, heavily relied on bank loans and intended to strategize as much business processes as possible. Because this is a difficult thing to achieve, results deviated drastically from what was intended. When the crisis hit, the company lost 90% of its market in a single day. Rörvik Timber and Bending group then, did not undertake any special measures in preparation for, or in reaction to the crisis. Instead, the companies relied on a quick recovery of the market circumstances rather than reacting to it. Rörvik Timber generated the highest profit in its existence right before the crisis, essentially lacking capacity for additional projects or

the creation of a buffer to take hits financially. To Rörvik Timber's CFO, Johan Jaensson, the crisis came as a total surprise. In comparison to the other interviewees, Tomas Ragnarsson, Bending Group's CEO, maintained a most passive attitude towards the 2008 crisis. Ragnarsson decided not to change the company strategy according to the market circumstances, cut costs wherever possible and did not make any plans for recovery when the market would pick up again.

With Seneca's barbell theory functioning as the other pillar of strategizing towards the antifragile SME (Taleb, 2009, 2012; Philip, 2011; Kaus *et al.*, 2012), this was a practical tool to examine the manager's view on risk control as well as his ability to seek and grasp business opportunities. With both the designing versus emerging strategy characteristics and Seneca's barbell theory covered, a base for answering the first two sub-questions was made. The theory around the barbell strategy states that a company is to implement (at least) two strategies simultaneously. The bimodal aspect focuses on keeping balance on the low risk 'down' (core business) of an SME and high risk 'up' of business management. Or as Taleb (2012, p.340), would put it: "clip your downside, protect yourself from extreme harm, and let the upside, the positive Black Swans, take care of itself". In practically, Seneca's barbell strategy finds its return in segmented businesses. Of all the observed SMEs, AMB showed the most conspicuous similarities with this strategy, where the company generated a solid profit from core businesses in the medical sector, and at the same time invested during the crisis. AMB was able to do so because the CEO, Tomas Magnusson, did not allow the revenue per customer to exceed the threshold of 20% of the total revenue. For that reason AMB never operated at full capacity, leaving enough potential for incremental, high risk 'up' business activities. AMB shared the same strategic mind-set with Amokabel and to some extent Trelleborg and Luma Metall. Luma Metall tried to focus on the markets that were governmentally funded to ensure a certain degree of stability. Other than that, the company invested in R&D by employing two doctoral employees with a background in chemistry. We noticed this to be a counter-intuitive response to the crisis compared to other companies. This indicates that the CEO, Mats Holmqvist, shared the same ideology with the more positive antifragility-related SMEs which were observed, but lacked a full access to resources to implement all the changes he ought necessary. Henrik Blad, CEO of Amokabel, generated a solid profit from regular customers.



Especially as a newcomer, the company had to invest in new developments to remain competitive. Blad claims that the company's focus is now for 80% on new business and invested heavily during the crisis period due to the low prices of machine, consultancy etc. Compared to the previous SMEs, Trelleborg is more of a special occasion as the company is part of Trelleborg Group, which influences the overall strategic directions of the company. Regardless, with experience in the ice cream and mining industry among others, the company managed to find a balance between business continuity from core business practices on one side and high risk investments on the other. As a conglomerate the Trelleborg Group acquired the necessary knowledge to deal with crises phenomena and this is something that clearly finds its return in Trelleborg Sealing Solutions in Kalmar. Still, the company's CEO, Anders Broberg, seemed visionary when he spoke about seeking for possibilities to strengthen the company's stability by 'having a third leg' in for example the medical industry. Whether an SME manager has achieved such bimodal strategies, or is ambitious enough to pursue these goals, does not make a significant difference in the context of this study purpose. If all, the managers who pursue a bimodal strategy but have not (yet) achieved it show more of an 'antifragile spirit' in the eyes of the researcher than managers who already have experience with bimodal strategies. Due to the fact that managers who deal with Seneca's barbell-like strategies also could have adopted instead of building it, the latter is more likely of retaining such balanced company strategies. In conjunction with the aforementioned, positive antifragility-related SMEs have a similar belief when it comes to responding to crises events. Blad and Broberg describe a very strong financial position to be one of the key factors to success. According to Magnusson, this is key success factor resides in solidity. Respectively, these managing directors argued for a financial 'buffer' not only to resist economic shocks, but to increase business potential as well. This is something that became clearly evident as all of these SMEs invested right before and/or during the crises and showed improvements in business output. This finding eminently corresponds with the theory, claiming that the resilient resists shocks and remains the same; the antifragile benefits under the same circumstances (Taleb, 2012).

Where managers of AMB, Amokabel and Trelleborg were concerned with growth potential during the financial crisis of 2008, the remaining observed enterprises showed

significantly less prosper results. Apart from Luma Metall, the CEOs of Bending Group, Rörvik Timber and Ariterm shared a similar belief when it comes to strategizing during or around crises phenomena. Among the preceding companies we discovered the following patterns: the SMEs did not take potential economic downturns into account; therefore allowing the company to run at full capacity (assuming a 'stern', obstinate stance). As a consequence, precautions measures were not considered, making these companies notably vulnerable to crises-like events. Additionally, we recognised that as soon as the managing directors of the same enterprises reckoned that the crisis noticeably affected the company's performance, they had similar ambitions as better performing comparisons when it comes to strategizing against crises, ultimately reaching for antifragility. However, in all occasions the companies were already too engaged in their complications to commence any countermeasures at that time. For example: Bending Group attempted to enter the tray industry, but coped with solvency issues which problematized a proper entry. As of today, Ariterm still struggles with repaying bank loans and lastly, Rörvik Timber made efforts to focus on niche markets within the timber industry, but was forced to save core business processes as a consequence of extreme losses of profit. An interesting fact we discovered is that the companies which are family- owned performed particularly well during the crisis compared to the others. When prompted with the question what their main goal was as a managing director (focus on profitability versus survivability), 'to generate profit' was an often-heard answer. Jaensson, realized that Rörvik Timber's business processes in 2005-2008 were optimized for reinvestment in the company. This, however, also resulted in the lack of residual capacity. Whereas family-owned enterprises (AMB and Amokabel) were focused on survivability. Magnusson, for example, mentioned that running a business is not about making profit, but it is the long-term strategy that counts. And although this became apparent from the empirical findings, it was not a greatly discussed topic in theory. Nevertheless, as we amend our preconceptions, it is only logical. Family-owned businesses are occupied with maintaining a certain degree of legacy, more so than stock market listed or commercial companies. Priority goes out to continuity and growth, as opposed to for example dispensing ever-increasing demands of divided amongst shareholders.

## 5.2 Opportunities

Opportunities are a chance for a company to change or expand the business (Peters, 1987). From the theoretical point of view, Feindt *et al.* (2002), Ramukumba (2014) and Simpson *et al.* (2012) identified the manager's network as an important tool for a SME's success during times of economic crisis. To take advantages, relationships to the customers, suppliers or other parties are necessary and the manager has to create those relationships within the networks. Long-term growth implicates stable relationships as a main factor (Rockart, 1979; Ramukumba, 2014; Simpson *et al.*, 2012). The network should be used as a tool to find information and possible businesses or partners and make the company more flexible and adaptable. For all interviewed managers the networks play an important role but not all the companies or managers use the network in the same way. AMB, Amokabel and Luma Metall used the network to find new business opportunities while Aritem used the network for lobbying to secure their business. Trelleborg tried to be closer at the customer by using the network and gaining information from the market. For Trelleborg Information is seen as the key. Rörvik Timber found that their network was not in a good condition, so the manager put a lot of effort in building new relationships and expanding the network. Furthermore, the AMB and Amokabel managers build long-term relationships based on their networks. Also the Trelleborg Sealing Solutions and Rörvik Timber managers put effort in building new, stronger relationships. Customer, supplier, distribution and competitor networks are named by the managers as the most common networks. The network is the basis for the business. If the network is not there, it is not easy to get the information and find new business opportunities. Furthermore the work on and in the network for a manager is important to work towards antifragility. Not in all case companies the network seems to be a key success area. It looks like the network is self-evident to do business on the one hand and on the other hand the more successful companies during the times of economic crisis used their networks to grasp the arising opportunities.

One of the opportunities is Innovation, which is shown as a key element of competition (Dervitsiotis, 2010; Dibrel *et al.*, 2008; Madrid *et al.*, 2009). Innovation is a significant variable in growth and success of companies (Dobbs and Hamilton, 2007; Feindt *et al.*, 2002; Mehraliyev and Azerbaijan, 2014). Dervitsiotis (2011) found that a global economy calls for new opportunities that generate new profits and end up in innovation

excellence based on the increase of never-ending uncertainty. Feindt *et al.* (2002) and Mehraliyev and Azerbaijan (2014), show that innovation is directly linked with the enterprise financial situation. Is the financial situation cramped, the investments in innovation decrease. Nevertheless it is very important to innovate during times of economic crisis (Dervitsiotis, 2012). It makes a company more flexible and you can increase performance over the companies that cut down. The innovations are a way to counter the negative effect of the crisis and make the company grow and sustainable (Madrid-Guijarro *et al.*, 2009). It's important for the SMEs to be flexible and innovative to find new ways to make profit. Innovation in short is a great competitive advantage in times of economic crisis (Naidoo, 2010). Han (2011) sees Innovation as the basis of survival of SMEs in turbulence. Within the case companies a pattern could be found regarding the correlation between innovation and success. For the AMB and Amokabel managers which performed well during times of economic crisis, innovation was the key for sustainability and growth. Especially the Amokabel manager showed the importance of innovation by creating each day 1-2 new products. For AMB innovation leads the shift from the telecom business the medical sector. The Luma Metall manager sees innovation as a part of the business. Nevertheless, the outcome of the analysis shows, that the correlation between theory and empirical findings is given. This, because except AMB and Amokabel all case company managers stopped direct investments in innovations during the times of economic crisis. Rörvik Timber focussed on the main business before the crisis and saw no need for innovations as the company run at a full capacity. When the crisis hit Rörvik Timber there was no room for innovation because of the cost cutting strategy.

The analysis shows also, that innovation itself is mostly included in the other identified fields like strategy, management or networks which underlines its importance for a company's success and thrive. During times of economic crisis the companies and managers become more creative because of the hard and fast changing business environment. Furthermore creativity could also be used to procure business resources. The theory says, that SME managers have in general lack access to business resources compared to the way Large Enterprises have and therefore SME managers have to be particularly creative to acquire business resources (Beck *et al.*, 2006; Xiang and Worthington, 2015). Furthermore a strengthened business resources position improves the manager's opportunity to make internal investments and perform merger and

acquisition activities (Ibid). Regardless, family-owned and managed SMEs show that revenue-generating actions rise above cost-cutting measures in terms of company growth. Self-financed companies to a larger extent showed a higher performance than companies relying on means of finance (Smallbone *et al.*, 2012). Rupeika-Apoga and Danovi (2011) stated that the manager's main challenge is to obtain the company's assets to keep the company on going. To keep a company on-going, the manager has to make sure that the liquidity and solidity is given. This is shown also in the empirical findings of the interviewed case companies. Furthermore during the economic crisis a manager have to make sure, that the company has cash on the account to stay flexible and have insurance. In terms of flexibility, cash and a solid financial position make it possible for managers to take advantages that arise during the crisis. Amokabel was in the position to realize a merger and acquisition during the economic crisis and used the cash to finance new upcoming business. Luma Metall brought in two new, high skilled employees during the crisis. For the Bending group money was needed to finance price fluctuations and Ariterm used external funding which requires 50% self-financing from the company. This show that the more a company is self-financed the more independency a company and the manager have. Furthermore AMB, Amokabel, Ariterm and Trelleborg named employees as an important resource. The knowledge of the employees helps to find new business opportunities and keep the business on going and provide the company with information. The financial situation of a company is identified as the most important resource for a manager especially because there is an interlinkage to a lot of other resources like flexibility, several investments, employees and changes in purchasing market conditions.

### 5.3 Motivation

Kotler and Caslione (2009) stated that the motivation is an important part in handling the crisis. Managers and employees alike are affected by the changes in the companies. The way the manager thinks and their mind-set affects what the company does when the crisis hits. AMB's, Amokabel's, Ariterm's and Bending Group's managers made a point of having a long-term oriented mind-set. That focusing on the future and not the short time profits is a health approach for the company. AMB and Amokabel are family owned companies and they have a larger aim for the company than just making money. For them the organisation is more and they want the organisation to be there for many

years to come. Arterm believed in the fundamentals of the organisation, that their products are the future and will help save the world. Working with renewable energy gives them the reason to wake up in the morning. Bending Group feel an obligation towards the employees that they want the organisation to exist in the future as well. Taleb (2012) and Kotler and Caslione (2009) explains the important of thinking for the future. The managers thinking beyond just tomorrow have a larger goal than profit. The goal is to run a successful company which change their way of planning. AMB and Amokabel did very well during the crisis because they had a lot of money save up. As owners they could have taken out a higher dividend but choose not to because they want the company to be stable in the future. The companies also had the possibilities to invest during the time of crisis due to this mind-set. Arterms aim to reduce as much risk as possible, making sure that the company is there in the future. This shows a willingness to adapt to make sure that the products are out on the market when they are needed. Taleb (2012) and Hilmeresson and Papaioannou, (2015) emphasize the importance of having a positive mind-set towards change and look for the opportunities that arises from crisis. Tomas Magnusson of AMB puts a great importance of being open for new ideas and opportunities. If somebody comes and ask if they can do something they always investigate the possibilities. This has given AMB completely new opportunities and made them produce new products that they never had thought about before. Amokabel took the crisis with ease, not pulling the breaks and cutting down. Instead the manger was open minded and kept looking for opportunities as if it was business as usual. Crisis is seen as positive, it means that new things present themselves and everything becomes cheaper. The crisis presented them with opportunities to build out their production and invest in a new company. This of course is only possible because of them having money saved up. But the mind-set of the company gives them the chance to invest and grow. In lines with Taleb (2012) both AMB and Amokabel was able to move forward and attack when the entire market was down. Bending Group, Luma Metall and Trelleborg tried to have a “keep it cool” mentality; knowing that the market eventually would turn around. Bending Group focused on cutting cost and waiting out the crisis. Keeping the mind-set that surviving and running the company was a collective effort. Bending Group had a negative performance during the crisis, but it was the same in their entire market. Every competitor together with Bending Group kept it cool. The company survived but they didn’t grow, but no opportunities were looked for during the time. Trelleborg also tried to keep it cool and with the market out.

The mother company had another idea and pulled the breaks on entire organisation. Luckily for Trelleborg they had a strong plant manager that tried to keep the owners away and keep working. This shows that having a bigger owner might not be the best thing. This means that a manager has to take others interests into account and decisions can be taken over their head. This paralyses the company in some aspects not giving them the opportunity to work on their own. Luma Metall manager kept a high trust in his employees and worked towards stable market; markets that are not affected by crisis in the same way. Rörvik tried to keep it cool and wait, but the market went down and without a buffer the company went under. Instead the manger tried to save the core-business and stay motivated that there would be a day after tomorrow. They change production towards niche products with high profit margins. Rörvik was affected by the optimistic mind-set they had before the crisis, investing everything they made when the company was doing well. The manager of Aritem took over the company when it was going down. He had to cut down and keep a risk-reducing mind-set to make the company profitable again. In Talebs (2012) definition all companies except AMB, Trelleborg and Amokabel, all took decision that can be seen as working towards antifragility. Cutting down, being passive and just trying to survive. Not all managers had a choice in their resilient mind-sets; some managers due to the previous performance of the company had to be more defensive. But it can be seen that their performance were more negative than the more opportunistic managers. The companies were affected during the crisis because of the mind-set that existed before.

Cristescu et al., (2013) and Enander et al., (2015) explained that the employees of the organisation need to feel like they are contributing to the company even during a crisis. Kotler and Caslione (2009) affirm that the motivation of the employees has a clear impact on the performance. Of the companies only Rörvik could see a change in motivation towards the more negative. The really poor situation and development of the company and people being left off made employees uneasy about their future. Rörvik also saw that the crisis was a good place for rumours that affected the employees and forced the managers to deal with it. Enander et al., (2015) would explain the decrease in motivation could be cause by the employees feeling powerless to help the company. The companies eventually when into reconstruction feeding the bad motivation even more. Rörvik did try to relocated employees to other task, in accordance with Kotler and Caslione (2009) but still saw a decreasing moral. Amokabel on the other hand did

relocated many of their employees to keep them busy and which had a good impact on the employees. Even if there was a drop in orders from the customers the employees could help with fixing up the production plant for the future production. This also helped the employees to grow closer to the company. Henrik Blad of Amokabel used positive incitements to try to engage the employees in the company. Like Qayum (2014) shows, the positive incitements has a positive impact on the employees. Ariterm and Bending Group saw similar effects of the crisis as Amokabel. When the crisis hit and the employees need to work hard, they grew closer to the company. The employees also showed a great understanding of the situation in all companies. Ragnarsson of Bending Group said that the employees that got to stay got self-motivated to help the company stay afloat. Lundegård of Ariterm saw that a majority of the employees got spurred by the crisis to keep on fighting for the future. But explained that the size of the company has a big impact on the closeness the employees feel towards the company. Trelleborg Sealing Solution explained that they tried to spur the employees and get them to work 110%. But also when there was little to do in the production, they let employees take longer vacations so that the employees that were at work had something to do. But Anders Broberg of Trelleborg explained that there is a high level of loyalty in the company that helped during the crisis. Luma Metall explained that their company has been through so many rough times that they joke about being immortal. Having an easy-going attitude and believing that they are going to survive. This might have had a positive impact on employee motivation. It clear the crisis affect the employees but not necessarily in a bad way. Employees being spurred by the situation and growing close to the company deviates some from the theory. The crisis in that sense has a positive impact on the employee motivation.

AMB had a good performance during the economic crisis of 2008-2009 and didn't see a decrease in motivation. But Tomas Magnusson of AMB explained that fast decision making and a transparency in communication helped company to eliminate worries. All companies interviewed explained that being open and transparent was one of the key things during the crisis. Keeping up communication and explaining the situation was the main tool to keep employees working, keep worries down and motivation up. In accordance with Kotler and Caslione (2009) and with Blinov et al., (2012) open communication and not keeping things hidden have a large impact on the employees. As Powley and Powley (2012) also showed the need for reassurance in the employees



was evident in the companies. But the open communication handled these problems in all the organisations. AMB, Amokabel and Rörvik explained that it was very important to be fast in the communication to keep the employees going. AMB and Rörvik emphasized on the importance of giving everybody the same information at the same time to eliminate misunderstandings. AMB and Amokabel also pointed out that trust in the employees is important for motivations. Rörvik explained that the trust the employees have for you is important and that keeping information from them can destroy the trust very fast. Arterm explained that it was important to always end all information on a positive note. This helped the company keep the motivation up. Staying positive and getting information out fast is in line with Rašković et al., (2011) theories. Luma Metall has a different approach to the employee communication; their owner has a more military approach. This Mats Holmqvist said was good for the company; it kept the employees in line and working towards the areas that will make them money. But still explaining and being open about the situation. But this goes against the theories of Qayum (2014) about not using a negative approach to motivation. In accordance with theory, the managers all felt the importance of being transparent and open, keeping communication frequent and making sure that employees know what is going on.

## 6 Conclusion

*The conclusion chapter takes the work from the analysis, to try to answer the research questions and sub-questions. Then managerial implications, theoretical implications and limitation of the paper are presented, as well as ideas for future research.*

### 6.1 SME managers during times of crisis

*Based on the research questions and findings, this chapter consists of the conclusions. The chapter starts by first answering the three sub-questions, followed by the answer to the main research question as a part of the managerial implications. Thereafter, the limitations of the study will be presented, as well as the recommendations for further research in the field of a manager's influence on the antifragile SME. What is a manager's role in the creation of an antifragile SME in times of economic crises?*

*To answer this question three sub-questions have been formulated, which will first be answered: 1) How are managers important for SMEs to become antifragile in times of economic crises? 2) What are the critical success areas for managers in the development of an antifragile SME? 3) How does a manager utilize critical success areas to thrive during times of economic crises?*

#### **6.1.1 How are managers important for SMEs to become antifragile in times of economic crises?**

The motivation of SME managers and their mind-set have a direct influence on the pathway toward antifragility. Managers lead the change in a company. The way the manager thinks and their mind-set affects what the company does when the crisis hits and if they move towards antifragility. This can be clearly seen in the companies, the way the manager thinks sets the strategy for the crisis. It is crucial that the managers have a long-term oriented mind-set and base their strategies and goals on an attitude towards life. Focusing on profit in a short term is not enough for antifragility. The managers make decisions how high the margins for products should be which investments are made and if a strategy to cut down the cost is necessary. Managers have to be open minded to see upcoming changes, opportunities, strengths, weaknesses and chances. By taking the opportunities and finding innovations which a manager would never have found end up in high profits for the company.

Managers have the ability to leave room for error as a positive thing since errors makes a company stronger and bring it closer towards antifragility. Therefore managers can build a money save up that they stay flexible in their decisions during times of crisis and errors. Furthermore managers can set up a flexible organisation to react fast on a changing business environment. The manager has the opportunity to adapt the company structure and organisation. As well as making sure that the products are out on the market when they are needed. That the SME employees follow their managers it is necessary to give the employees the information they need and have a transparent and open communication about good and the bad things to increase the trust within the company. A fast and clear decision making based on transparency underlines the managers leadership skills requested to lead the organisation towards antifragility. Employees need a leader which keep the motivation high and give them a task within a crisis although there seems to be no task.

#### **6.1.2 Why are the critical success areas important in the development of an antifragile SME?**

The analysis did not only provide the researchers with insights in the identification of the CSAs, it also distinguished the importance of each CSA compared to one another. Strategy, for example, plays an essential role as the majority of the antifragility-related companies showed that an SME requires a ‘third leg to stand on’ in order to generate a reliable source of income. Additionally, the same companies demonstrated the importance of the ability to react quickly to rapidly changing market developments. In case an SME fails to do so, the manager will have a hard time picking up business when the market rebounds as he/she will still be implementing changes due to lagging business processes. One of the main features of an antifragile SME is its capability to grow in declining market circumstances. As paradoxical as it seems, giving profit the highest priority is not part of the best practice to achieve an antifragile characteristic. As positive antifragility-related companies indicated that growth indeed is an aim for the antifragile SME, but survivability is a top priority. These companies showed that business activities should never reach or come near to its full capacity. Instead, these companies thrived by using the residual capacity to take hits financially, engage in niche markets or make investments elsewhere. The analysis highlighted the difference between the companies who succeeded at remaining constant and/or growing, and the

companies who suffered from the financial crisis. From this finding it became apparent that preparation for possible economic downturns, as well as the preparation for market rebounds is crucial in working towards an antifragile architecture.

Opportunities are one of the cornerstones of antifragility. The organisation needs to grow and take advantage of the crisis to become the antifragile. Networks are areas that deemed to always be important for any organisation at all times. Therefore it is not crucial in the development of the antifragile SME even if it can be useful. It is a part of doing business and running the everyday work, but did not prove to be important for all organisations during crisis. Innovations and investments did prove crucial. The company need to plan for the future market and innovations and investment are ways to prepare the organisation. During the crisis everything from consultants, construction and even other companies becomes really cheap. To work towards antifragility the managers can use this to their advantage and expand the business during the crisis. However this requires the company to have the resources to make these investments. “Cash is king”, the companies that had money saved up and was partially self-financed handled the crisis better. Banks are hard to get a hold off and getting hold of other finances can be hard during times of crisis. Money is a prerequisite to flexibility and gives the company the power to make their own choices. The employees and the production plants also proved to be important part of the resources. A manager needs the right people and the right plant to be able to expand and invest for the future.

The manager has a large importance towards the antifragile organisation. Passive management proved to have a more negative affect during the crisis. The long-term oriented firms showed positive correlations towards the profit and growth of the organisation. Along with a positive thinking of the crisis and the change it provided. However the positive thinking should not come at the cost of the company. Being too optimistic can prove a danger to the company, investing all the capital or being too focused on one market, makes the company vulnerable to crisis. Having the right mind-set can either make or break the organisation. Motivation for managers is an important part in the development of the antifragile SME. However the employee motivation did not prove to be a crucial part in the development and did not have a negative impact on the work. The findings showed instead of the crisis having a negative effect on employees it had a positive. 6 out of 7 companies only was positive outcomes and the

negative outcome was the company that went into reconstruction. In the other companies employees grew closer to the company and was spurred to fight for the company. The crisis did however bring up some worries in the employees, there for communication proved a crucial part in all organisations. Transparency and openness was brought forward as a key area to keep trust in management and the organisation. The communication also needs to be fast, to everybody and consistent to eliminate any discussion between employees. But as long as the communication is working in the organisation employee motivation become redundant in the antifragile SME.

### **6.1.3 How does a manager utilize critical success areas to thrive during times of economic crises?**

Strategic-wise, most managers indicated company strategies were not altered in preparation for, or as a cause of crises. Whether this concerned successful or less successful managers, most strategies either incorporated possible economic downturns or managers did not feel the necessity to adjust according the market circumstances. The more successful managers did not change their strategy because the adapting nature was incorporated in the strategy already, making them less vulnerable to crises-like events. Less successful managers on the other hand, relied on the market rebound and did therefore not adapt accordingly. The analysis showed that a manager who is more aware of his/her surroundings (i.e.: able to assimilate a high quantity of information) is likely to be more capable of making strategic choices that benefit the SME's sustainability. These companies were in most occasions highly involved in market developments or had a systematic approach to tracking likewise developments. Managers who maintained a more defensive approach, in comparison, were not able to make changes (if all) as quickly, resulting in a catch-22 company situation.

The network might provide new opportunities for the company that is prepared for the crisis. One company's previous contact provided them with a business opportunity in a company that was going bankrupt. But the network is important to keep up at all time, before the crisis ever occur. During the crisis the market is down and everything that involves expanding becomes cheap. This is the chance for the manager too look for new investments and innovations to get a cheap price to expand the business. The capital of the company needs to be saved up before the crisis, the manager needs to start creating a

cash base when the market is good. During the crisis the manager can use intermediaries to secure payments as well as withholding payments. Keeping cash inside the company is key to be able to work towards antifragility. There is also a big fluctuation in prices on materials during crisis, the manager can work actively towards securing prices or try to make bargains for the future.

The mind-set a manager has influences the entire way the organisation operates. It is important for the managers to keep a positive mind-set and have a belief in the future. This provides a positive atmosphere in the company. Always thinking about the larger goal and not the short term profits. Making sure that the company is investing in the right places and not focusing all efforts in one area. The work towards antifragility starts before the crisis, the manager has to have to start planning way before when the market is good. Saving up money for a buffer or finding new markets or products is not always possible during crisis but will help the company if done previously. Panicking and pulling the brakes can work in the opposite of antifragility. It might be necessary to cut down if the company is not prepared for the crisis. But that means that the company has a larger start up phase when the market turns. One company also worked the manager mind-set into the employees, to make sure they worked in the right way. This is a way to use the mind-set of the manager to form the employees to think and act the right way. With a antifragile mind-set the manager can then make the entire company act towards antifragility. The market going down means less to do in the production, the manager can then relocate the employees to other tasks. With more time the employees can do maintenance work, try to optimize production or educate themselves. This keeps them motivated and busy as well while helping the company prepare for the future. In a worst case scenario the employees can also be sent home on vacation to try to cut costs. The communication is key during crisis, the manager keeping up the information flow and transparency keeps the employees motivated and there is no room for worries. By keeping things on a positive note and spurring the employees to keep on working. The manager can make sure that no dip in motivation happens.

## 6.2 Managerial implications

Based on the target of the main research question “What is a manager’s role in the creation of an antifragile SME in times of economic crises?” the managerial

implications have been formulated. The main goal is to provide managers with recommendations to establish an antifragile SME.

The manager is the key to become antifragile; the manager's role is to use his capabilities to change the company into a versatile entity. Therefore managers have to be aware of their impact on the company and actively work towards becoming antifragile. The company requires more than one leg to stand on to withstand business or market declines. The responsibility of the manager is to actively find and establish more ways to make profit than one product or market. Engaging in niche markets secure a higher profit margin and working in markets unaffected by crises is a good way to secure a steady cash flow. Enable opportunities by pushing innovations and develop and use networks. Regardless, networks are self-evident; they are the basis for doing business during economic crises and amid stable market conditions. Managers lead the company to jump on the opportunities that arise during a crisis and make investments because they become more affordable. Making bargains or finding ways to invest into new markets provides the opportunity to make the company grow when the market rebounds. This requires investment capital, the manager has to use his/her organizational capabilities by focusing on a high liquidity and but not invest all profits in the daily and core business in the meantime. A company needs a buffer to use during crises and keep its flexibility. This liquidity is obtained when the market is showing signs of prosperity and the company is doing well, reinvesting all of its profit in the company makes the SME vulnerable for future crises events. The manager needs to keep a positive mind-set and positive view on crises, being creative in finding new opportunities and view them as chances in a changing market. The manager should also make sure that the employees are productive during the crisis; reallocation of workforce is a way to ensure employer skill and knowledge. This retained knowledge can be utilized when the market rebounds. To keep employees informed of what is going on in the market and the company is key to keep the employees motivated. Being transparent, talking to all the employees and being positive eliminates possible rumours and keeps them spurred to grow. Becoming antifragile starts before the crisis hits. A manager needs to prepare long before and prepare the company for prosperity at the same time.

### 6.3 Theoretical implications

Antifragility is a relatively new subject which lack any form of larger study besides the work by Taleb. This makes this paper rather exclusive at the time. The field of antifragility can be found buried in other theories but it needs to be brought into light. Antifragility is not resilience and it is not surviving. Instead antifragility is gaining from crisis. This brings up an interesting view point in academia. Instead of having a negative view on crisis and only focusing on negative aspects this paper came up with positive correlations for managers. Furthermore crisis actually made the employees grows closer to the company and become spurred by the challenging environment. This goes against the previous studies on employee motivation during crisis. Meaning that the way people are expected to react to crisis can be looked at again. This paper also not only look into a new field but also into managers in SMEs and the way they handle crisis. The way manager act in and react to crisis is interesting and gives insights to how to run a company in unstable market conditions. The study shows the importance of the long-term strategy and that even if a SME is smaller they can still grow and fight when the market is down. It also shows that the cost cutting measures and being passive can have a negative impact on the company. This paper shows the importance of antifragility and the importance of categorising in academia. For the future the authors suggest to make the definitions resilience more clear. Resilience should be defined as surviving during crisis and antifragility as thriving during crisis. This could have the impact, that a lot of the theory that exists today should have been branded as antifragility and not resilience.

### 6.4 Limitations

The field of Antifragility is a new one, even if previously research has been done in related fields. This means that there is no majority of theory only focusing on antifragility, a strength that might exist in other field. The concept is also largely based on philosophy rather than economics. Even though the author Taleb comes from the world of academia and has many years' experience in world of economics. It can also be clearly seen that many authors of the articles in theoretical chapter are touching upon the subject of antifragility without knowing it. This means that there might be a lot more research conducted within the field that have been missed. For this study no female managers were interviewed. A completely unconscious decision, a couple of female managers was approached for interview but was unable to make time for an interview.



Having interview with some women might have given more insights into the field. The research results can only be generalized for Swedish companies because the empirical data gathering took place in Sweden. If the study will be done in another country, the results can be different. For example the Swedish managers explained that the employees are very loyal in Sweden.

## 6.5 Further research

The field of antifragility is new and gives many opportunities for future research. This study focused on SMEs and managers. Trelleborg Sealing Solution is a part of a larger group, showing how much a bigger owner group can influence an organisation. Making studies on larger organisations and on larger company groups might give new insights in to the field of antifragility. Researching how bigger owners think and act could give a larger perspective into the field of crisis. This study focused only on Sweden, researching the field of antifragility in other countries might give new results. Focusing on countries or areas with very different culture for example Asia, the US or South America, could bring new interesting cross case analysis. As previously mentioned this study only interviewed male managers. For the future making research with a gender focus, looking into female managers in times of crisis might bring new ideas and management techniques. There was no distinction between family owned companies or regular companies in this paper. However there are some distinctions seen within the companies AMB and Amokabel being family companies with other goals and Trelleborg being a part of a larger group. For the future the different types of SMEs could be analysed. As well as companies being public or non-public to see the difference ownership has on the creation and management of antifragile organisations.

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## Appendices

### Appendix A – The economic crises table

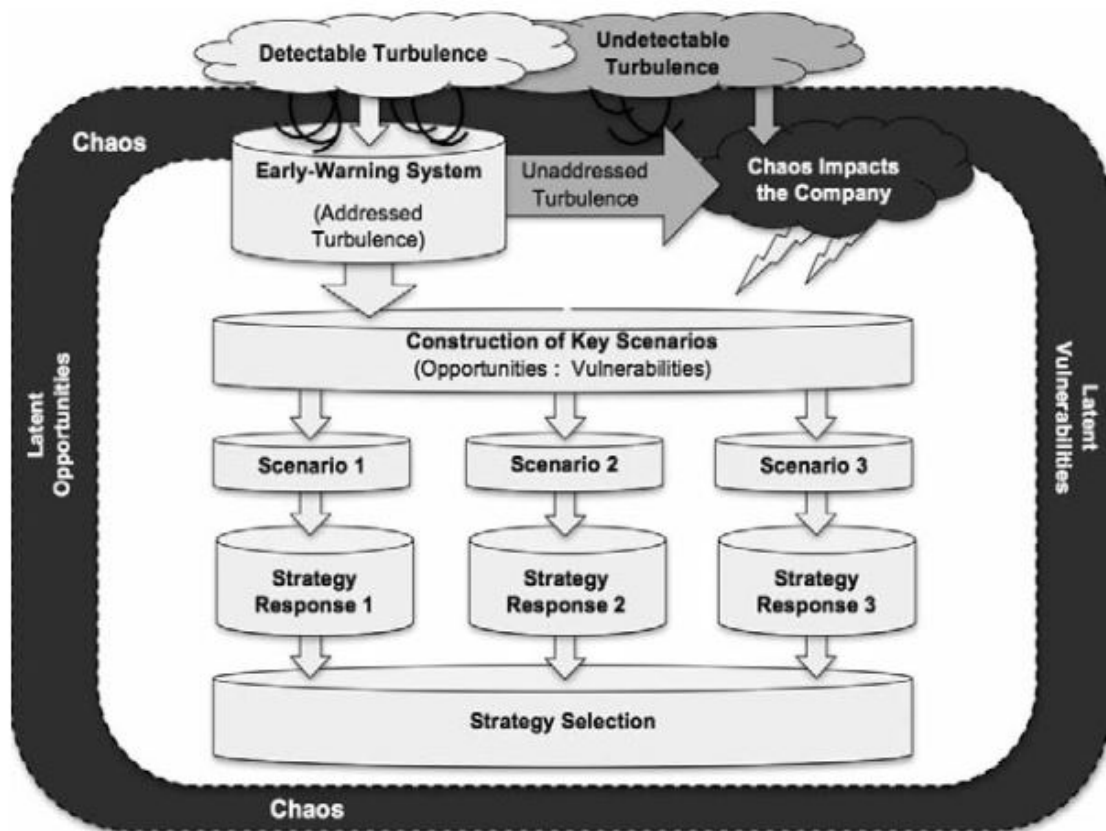
Nr.	Crisis	Where	global, multinational or national	Related to	Preceding speculation in	monetary expansion from	length			Sources
							Start	end	Years	
1	Crisis of the 3rd Century	Roman Empire	multinational				235	285	50	Brown, A. (undated booklet) The Financial Collapse of the Roman Coinage in the 3rd Century A.D. 20 pp. 1 plate. Published by Augustus Brown, Kyrenia, Kingston, Canterbury, Kent. The Financial Collapse of the Roman Coinage in the 3rd Century A.D.
2	Crisis of the 14th century - banking crisis	Italy	national				1340	1345	5	<a href="https://thefinancialengineer.org/2013/03/31/14th-century-the-crash-of-peruzzi-and-the-bardi-family-in-1345/">https://thefinancialengineer.org/2013/03/31/14th-century-the-crash-of-peruzzi-and-the-bardi-family-in-1345/</a>
3		Holy Roman Empire	multinational	Thirty Years' War	Subsidiary coin, exchanging bad for good	Debasement of coins by weight, fineness, denomination	1618	1623	5	Kindleberger (2002)
4		Dutch Republic	national	Boom in war against Spain	Shares of dutch east India company, real estate, exotic tulip bulbs, common tulip bulbs, canals	None (?), down payment in kind	1636	1637	1	Kindleberger (2002)
5		England	national	Glorious Revolution 1688; war with France 1689-1697	East India Company, treasure, new companies, lotteries	Coin debasement, Bank of England established 1694	1690	1696	6	Kindleberger (2002)
6	South Sea bubble	England	national	Treaty of Utrecht, 1713	South Sea Company stock, government debt	Sword Blade Bank	1720	1720	0	Kindleberger (2002)
7	South Sea bubble	France	national	Death of Louis XIV, 1715	Mississippi Company, Banque Générale, Banque Royale	John Law banks	1720	1720	0	Kindleberger (2002)
8		Amsterdam	national	End of Seven Yers' War	Commodities, esp. Sugar (?)	Wisselruitij (chain of accommodation bills)	1763	1763	0	Kindleberger (2002)
9		Britain	national	Seven Years' War (10 years after)	Housing, turnpikes, canals	Ayr Bank; county banks	1772	1772	0	Kindleberger (2002)
10		Amsterdam	national	Seven Years' War (10 years after)	East India Co.	Wisselruitij; Bank of Amsterdam	1772	1772	0	Kindleberger (2002)
11	Panic of 1792	United States	national	Constitution adopted, 1789	Recovery of US bonds	Treasury accepted public securities at par for stock of bank of the US	1792	1792	0	Kindleberger (2002)
12	Panic of 1792	England	national	Reign of Terror (France)	Canal mania	capital flows from france	1793	1793	0	Kindleberger (2002)
13		England	national	Collapse of assignats; French landing, Fishguard	Securities, canals	country banks	1797	1797	0	Kindleberger (2002)
14		Hamburg	national	Break in Continental blockade	Commodities	Wechselreiterei	1799	1799	0	Kindleberger (2002)
15		England	national	Wellington's peninsula campaign	Exports to Brazil (and Scandinavia)	Country banks	1810	1810	0	Kindleberger (2002)
16		England	national	End of Napoleonic War	Export commodities, Continent and United States	banks	1815	1816	1	Kindleberger (2002)
17		England	national	Waterloo (five years after)	Commodities, securities	Banks generally	1819	1819	0	Kindleberger (2002)
18		United States	national		Manufacturing behind embargo	Bank of US	1819	1819	0	Kindleberger (2002)
19	Latin American crisis	England	national	Success of baring loan; decline in interest rates	Latin American binds, mines, cotton	Bonds sold in installments, country banks	1825	1825	0	Kindleberger (2002)

20		France	national	Decline in interest rates	Canals, cotton, building, sites	Paris banks	1828	1828	0	Kindleberger (2002)
21	Cotton crisis	England	national	Textile boom	Cotton, railroads	Joint-stock banks	1836	1836	0	Kindleberger (2002)
22	Cotton crisis	United States	national	Jackson persidencia	Cotton, land	Wildcat banks; retention of silver	1837	1837	0	Kindleberger (2002)
23	Cotton crisis	France	national	July 1830 Monarchy	Cotton, building sites	Regional banks	1838	1838	0	Kindleberger (2002)
24		England	national	1846 potato blight, wheat failure	Railways, wheat	Installment sale of railway securities	1847	1847	0	Kindleberger (2002)
25		Continent	multinational	1847 potato blight, wheat failure	Railways, wheat, building (Cologne)	Regional banks	1848	1848	0	Kindleberger (2002)
26	Railroad crisis	United States	national	End of Crimean War	Railroads, public lands	Gold discoveries, clearinghouse	1857	1857	0	Kindleberger (2002)
27	Railroad crisis	England	national	End of Crimean War	Railroads, wheat	Bank mergers, clearinghouse	1857	1857	0	Kindleberger (2002)
28	Railroad crisis	Continent	multinational	End of Crimean War	Railroads, heavy industry	Credit mobilier, new German banks	1857	1857	0	Kindleberger (2002)
29		France	national	End of Civil War	Cotton, shipping companies generally	Credit mobilier, new German banks	1864	1864	0	Kindleberger (2002)
30		England/Italy	multinational	General limited liability	shipping companies generally	Joint-stock discount houses	1866	1866	0	Kindleberger (2002)
31	Long Depression	German/Austria	multinational	Franco-Prussian indemnity	Building sites, railroads, securities, commodities	New industrial banks, broker banks, construction banks	1873	1873	0	Kindleberger (2002)
32	Long Depression	United States	national	Fraud exposed in 1872 campaign	Railroads, homesteading, Chicago bldg.	Short-term credit inflow of European capital	1873	1873	0	Kindleberger (2002)
33		France	national	Expansion into southeastern Europe	Stock of new banks, Lyons	Securities bought on margin	1882	1882	0	Kindleberger (2002)
34		England	national	Argentine clearing of southern lands; Brazil, coffee; Chile, nitrates; South Africa, gold	Argentine securities, private companies going public	Goschen conversation	1890	1890	0	Kindleberger (2002)
35		United States	national	Sherman Silver Act, 1890	Silver, gold	Contraction	1893	1893	0	Kindleberger (2002)
36		Australia	national	Growth of cities	Land, gold mines	Capital inflow	1893	1893	0	Kindleberger (2002)
37	Knicker-bocker crisis	United States	national	Russo-Japanese war (?) San Francisco earthquake (?)	Coffee, Union Pacific	Trust companies	1907	1907	0	Kindleberger (2002)
38	Knicker-bocker crisis	France/Italy	multinational	Russo-Japanese war (?) San Francisco earthquake (?)	Industrial borrowing from banks	Societa Bancaria Italiana	1907	1907	0	Kindleberger (2002)
39		Britain United States	multinational	End of postwar boom	Securities, ships, commodities, inventories	Banks	1920	1921	1	Kindleberger (2002)
40	Wall Street crash	United States	national	End of expanded postwar boom	Land to 1925, stocks 1928-29	Stocks bought on margin	1929	1929	0	Kindleberger (2002)
41		Europe	multinational	Cut-off of US foreign lending	Not applicable	US lending	1931	1933	2	Kindleberger (2002)
42		Worldwide	global	Convertibility without macroeconomic coordination	Foreign exchange	Not applicable	1950	1960	10	Kindleberger (2002)
43	Oil crisis	United States		Collapse of Bretton Woods: OPEC, 1973 price rise	Stocks, Reits, office buildings, tankers, Boeing 747s	Eurodollar market flooding in 1970-71	1974	1975	1	Kindleberger (2002)
44	Oil crisis	Worldwide	global	Collapse of Bretton Woods: OPEC, 1973 price rise	Stocks, Reits, office buildings, tankers, Boeing 747s	Eurodollar market flooding in 1970-71	1974	1975	1	Kindleberger (2002)

45		United States		Third World syndicated bank loans, OPEC 1979 price rise in oil, real estate in southwest United States, US farmland, dollar			1979	1982	3	Kindleberger (2002)
46		World	global	Third World syndicated bank loans, OPEC 1979 price rise in oil, real estate in southwest United States, US farmland, dollar			1979	1982	3	Kindleberger (2002)
47	Black Monday	United States	national	Stock market, luxury housing, office buildings, dollar		Capital inflow	1982	1987	5	Kindleberger (2002)
48		Japan	national	Nikkei shares index; real estate		Interest-rate reduction 1986	1990	1990	0	Kindleberger (2002)
49		Mexico	national	Deregulation; capital inflow and outflow; domestic boom		Capital inflow, bank lending, domestic new banks 1991, nationalized banks privatized 1991	1994	1995	1	Kindleberger (2002)
50	Asian crisis	Thailand, Indonesia, Malaysia, Korea, Russia, Brazil	multinational	Deregulation, capital inflow and outflow; borrowing abroad		Bank lending; construction boom; crony capitalism	1997	1998	1	Kindleberger (2002)
51	Dotcom bubble	worldwide	global	technology sector - internet companies			1999	2000	1	<a href="http://www.ifre.com/a-history-of-the-past-40-years-in-financial-crises/21102949.fullarticle">http://www.ifre.com/a-history-of-the-past-40-years-in-financial-crises/21102949.fullarticle</a> <a href="http://www.economist.com/news/essays/21600451-finance-not-merely-prone-crises-it-shaped-them-five-historical-crises-show-how-aspects-today-s-fina">http://www.economist.com/news/essays/21600451-finance-not-merely-prone-crises-it-shaped-them-five-historical-crises-show-how-aspects-today-s-fina</a>
52	Subprime crisis	worldwide	global	mortgage securities designed to reduce risk encouraged			2007	2008	1	<a href="http://www.ifre.com/a-history-of-the-past-40-years-in-financial-crises/21102949.fullarticle">http://www.ifre.com/a-history-of-the-past-40-years-in-financial-crises/21102949.fullarticle</a> <a href="http://www.economist.com/news/essays/21600451-finance-not-merely-prone-crises-it-shaped-them-five-historical-crises-show-how-aspects-today-s-fina">http://www.economist.com/news/essays/21600451-finance-not-merely-prone-crises-it-shaped-them-five-historical-crises-show-how-aspects-today-s-fina</a>

Table of economic crises	number	number in the last 50 years
national	35	3
multinational	9	1
global	5	5
sum	49	9
Time period	616 years	50 years
Average time span between crises in years	13	6
Global crises in %	10%	56%

## Appendix B – Chaotics management system



*(Source: Kotler and Caslione, 2009, p.78)*



## Appendix C – Interview guide

### Manager's mind-set and the antifragile SME

#### Interview guide

Kalmar, April 2016

#### Intro

- Thank you!
- Note regarding the duration of the interview, the content and the structure of the interview

The interview is about the ability of SMEs and how managers operate respond to economic crises.

- Ask for permission to record the interview.
- Personal questions:

In terms of intensity and conceivability, how would you describe your current position's tasks?

How long have you been fulfilling this position?

Have you been active as a manager during the economic crisis, which started in 2008?

Does your company still cope with possible aftermaths as a consequence of this crisis?

- Declaration on the confidential use of the information (the name and position in the company)

**Aim: To see whether the identified theories regarding antifragility and how manager's act, correlate with the SME's practical activities during the times of economic turbulence.**

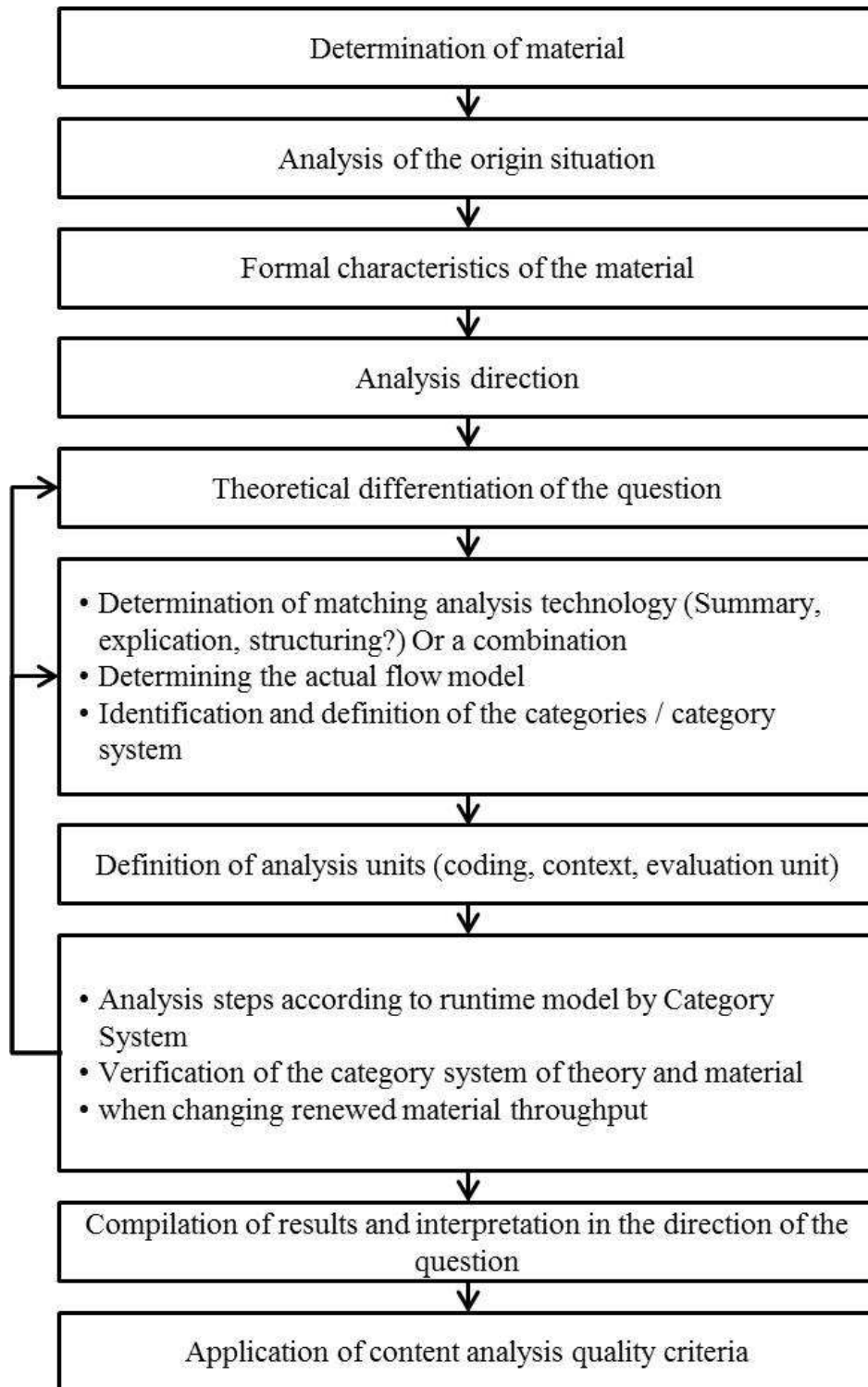
<b>SQ1</b>  <b>SQ2</b>	<p><b>Overall questions:</b></p> <p><i>With these questions we want to analyse the current situation of the company; whether they have experienced growth, remained stable or suffered from economic turbulence.</i></p> <hr/> <p><b>Position of the SME:</b></p> <p><i>Aim: To resolve the status quo.</i></p> <hr/> <ul style="list-style-type: none"> <li>• Where are you competing right now (in which segments, branches, product, place)?</li> <li>• What are the company's CSAs in terms of competitiveness? <i>(Optional)</i> Why did these CSAs come to be of significance to the company?</li> <li>• How did the economic crisis 2008 (or any other economic downturn) affect the SME's performance?</li> <li>• What was the company's response to the crisis?</li> <li>• What did you as a manager do?</li> </ul>
<b>SQ2</b>	<p><b>Dimension 1: Strategy</b></p> <p><i>With there being a slight overlap with the status quo of the company and the first dimension: strategy, this topic focuses more on the company's ability to adapt to changing circumstances. Also, the company's view on dual strategies and the manager's influence on these strategies are assessed.</i></p> <hr/> <p><b>1.1 Design versus Emergence:</b></p> <p><i>Aim: What is their strategy and if the strategy is emergent, do they take possible economic downturns into account?</i></p> <hr/> <ul style="list-style-type: none"> <li>• What is your (the manager's) influence on the company strategy adaptability?</li> <li>• Did you change your strategy due to changes in the market, and if yes, can you give an example?</li> </ul>

	<ul style="list-style-type: none"> <li>• What elements did you change and why?</li> <li>• Do you have a systematic approach to track market changes and developments and if yes, how did you set up this system?</li> <li>• What variables do you deem critical for a manager to influence in order to work towards a sustainable company in economic crises?</li> </ul>
<b>SQ1</b>	<b>1.2 Seneca's barbell strategy:</b>  <i>Aim: To figure out if the managers implement different strategies simultaneously in order to attain an antifragile character.</i>
	<ul style="list-style-type: none"> <li>• Do you apply different strategies where necessary, i.e. in different segments, areas? (to what extent are business processes segmented)</li> <li>• How do these strategies differ from each other and how is risk divided among them?</li> <li>• Do you have a specific strategy to perform similar or towards growth during economic turbulence or crises?</li> <li>• What does this look like?</li> <li>• What is your main goal from a manager's perspective? (to maximize profitability versus survivability; to see whether the manager is more static orientated, instead of being concerned with the future perspectives of the company concerning risk control and antifragility)</li> <li>• As a manager, what are your three top priorities in order to make this business prosper?</li> </ul>
<b>SQ2</b>	<b>Dimension 2: Opportunities</b>
<b>SQ3</b>	<i>Opportunities describe the manager's ability to recognise and utilize critical success factors but also, it tells the researcher how the manager perceives certain threats which are paired with economic downturn and how they respond to them.</i>
	<b>2.1 Networks:</b>  <i>Aim: How does the manager use the company's network as well as his own</i>

	<p><i>networks to achieve the above stated goals.</i></p>
	<ul style="list-style-type: none"> <li>• Which kind of networks do you use to improve the company and achieve its goals?</li> <li>• Have you had experience with situations in which the company networks or your own made a significant difference in reaching your goals?</li> <li>• Does your accessibility to networks change in times of turbulence?</li> <li>• How does the utilization of networks change in times of turbulence, i.e. change in suppliers (while the amount remains similar) and does the company rely more self-sustainability?</li> </ul>
	<p><b>2.2 Innovation:</b></p> <p><i>Aim: To what extent does the company value innovation and do they cut down or increase innovation expenses during times of turbulence.</i></p>
	<ul style="list-style-type: none"> <li>• How important is innovation to the company`s sustainability and growth?</li> <li>• What are the top 3 innovations the company has produced in its existence?</li> <li>• Does the company still profit from these innovations?</li> <li>• What is the company`s stance in the development of future innovations?</li> <li>• How are innovations expenses managed in times of turbulence?</li> </ul>
	<p><b>2.3 Resources:</b></p> <p><i>Aim: To what extent does the company value resources and how does the accessibility to resources change during times of turbulence?</i></p>
	<ul style="list-style-type: none"> <li>• What resources are in your opinion most valuable to the company?</li> <li>• How susceptible is the company to losing these assets?</li> <li>• How would you best protect valuable resources and how accessible are alternatives?</li> <li>• How do you ensure that the company attains the right resources?</li> </ul>

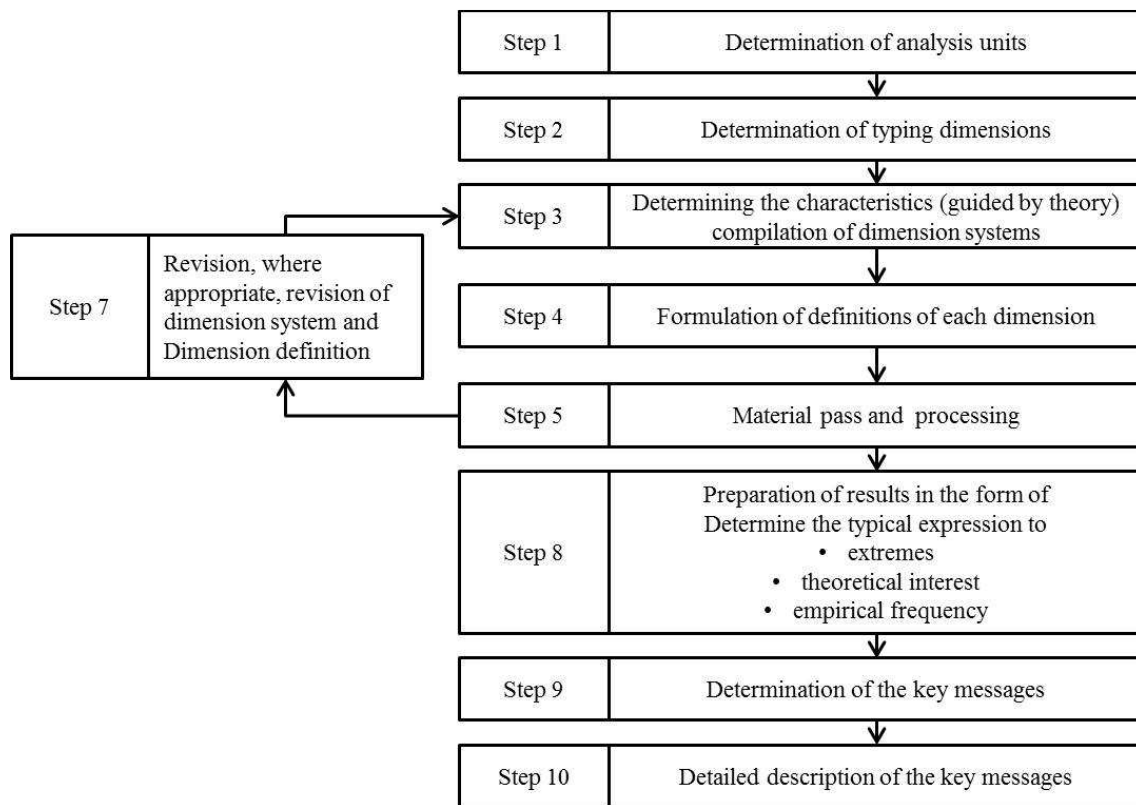
	<ul style="list-style-type: none"> <li>• How do you use the available resources most effectively and efficiently?</li> <li>• How are resources managed in times of turbulence?</li> <li>• Have you had experience with resources negatively impacting the company`s sustainability and growth?</li> </ul>
<b>SQ3</b>	<b>Dimension 3: Motivation</b>
	<p><i>How does the manager empower his employees, establishes the appropriate mind-set and communicate company objectives in both economic downturn and stable market conditions.</i></p>
	<p><b>3.1 Employer motivation:</b></p> <p><i>Aim: to empower employee effectiveness and efficiency.</i></p>
	<ul style="list-style-type: none"> <li>• How did you handle the employees during the time of economic crisis?</li> <li>• Was there any decrease in the performance regarding the employees?</li> </ul>
	<p><b>3.2 Mind-set:</b></p> <p><i>Aim: To identify the manager`s ideology regarding company goals in relation to the state of economic climate they operate in. Does the manager have a positive or negative view on economic turbulence?</i></p>
	<ul style="list-style-type: none"> <li>• What is your view on future economic downturn that could possibly affect your company sustainability and growth?</li> <li>• How did the overall (and your) mind-set change during the economic crises of 2008?</li> <li>• How do you manage employee morale during times of turbulence?</li> </ul>
	<p><b>3.3 Communication:</b></p> <p><i>Aim: t.b.d.</i></p>
•	<ul style="list-style-type: none"> <li>• <i>How do you communicate with your employees during this?</i></li> </ul>
	<ul style="list-style-type: none"> <li>• <i>How does it differ from normal / stable market conditions?</i></li> </ul>

## Appendix D – General content analysis flow model



(Source: based on Mayring, 2010, p.60)

## Appendix E – Flow model of content structuring and content analysis



(Source: based on Mayring, 2010, p.60)

## Appendix F – Interview evaluation

Topic		A managers role in creation of an antifragile SME in times of economic crisis								Assessment of
Dimensions		Strategy		Opportunities			Motivation			SME's antifragility
		Design versus emergence	Seneca's barbell strategy	Networks	Innovation	Resources	Employer motivation	Mind-set	Communication	
Empirical findings	AMB - Tomas Magnusson	<ul style="list-style-type: none"> <li>- crisis in the cellular phone segment pushed the company to a strategic change</li> <li>- the decision was made before the Crisis</li> <li>- emergence to upcoming markets which the company would have never found</li> <li>- design complex products and increase the service level</li> <li>- no market based view</li> <li>- control the risk</li> <li>- made decisions based on the situations that occur</li> <li>- plan and train for possible emergencies</li> <li>- adjust all the time</li> <li>- company focus is not on economy, but more on quality and short delivery</li> </ul>	<ul style="list-style-type: none"> <li>- not more then 20% revenue at one customer</li> <li>- never say now to a new customer request until it is valid checked</li> <li>- made investments during the crisis</li> <li>- lower the risk of success if possible</li> </ul>	<ul style="list-style-type: none"> <li>- networks helped in finding new business opportunities</li> <li>- external professional board</li> <li>- use the supplier network for application tips</li> <li>- long-term relationships</li> <li>- customer network meetings</li> <li>- good relationships with banks</li> </ul>	<ul style="list-style-type: none"> <li>- innovation was the key for the shift from telecom to medical sector</li> <li>- because new products where necessary</li> <li>- using the networks for innovations</li> <li>- new requests from suppliers to find new opportunities for innovations</li> <li>- lower the risk of new projects</li> </ul>	<ul style="list-style-type: none"> <li>- flexibility in project management and production facility</li> <li>- flexibility</li> <li>- employees</li> <li>- open minded</li> <li>- flat organisation</li> <li>- external professional board</li> <li>- quick decision making</li> <li>- in-house processes</li> <li>- solidity and cash</li> </ul>	<ul style="list-style-type: none"> <li>- quick decision making</li> <li>- transparency (company rules book - the read thread to success)</li> <li>- openness and information</li> </ul>	<ul style="list-style-type: none"> <li>- be open minded</li> <li>- change is necessary</li> <li>- show interest (want to know what is going on)</li> <li>- listen</li> <li>- support if possible</li> <li>- giving every employee the same mind-set</li> <li>- long-term oriented</li> <li>- always go for the long-term solution</li> </ul>	<ul style="list-style-type: none"> <li>- cross functional meetings</li> <li>- talk openly</li> <li>- give information</li> <li>- no change during crisis nor during stable market condition</li> <li>- fast answers</li> <li>- giving each the same level of information</li> <li>- make clear who is leading the company</li> </ul>	<b>positiv</b> <ul style="list-style-type: none"> <li>- growth of more than 15% during the crisis</li> <li>- made investments</li> </ul>
	Amokabel - Henrik Blad	<ul style="list-style-type: none"> <li>- designing a strategy for merger and acquisition</li> <li>- no pre-planned strategy for crisis</li> <li>- focus on growth and strategy</li> <li>- use own company</li> </ul>	<ul style="list-style-type: none"> <li>- heavy investments during all crises</li> <li>- using the crisis situation</li> <li>- starting a lot of new projects during the crisis</li> <li>- fix revenue with constantly buying</li> </ul>	<ul style="list-style-type: none"> <li>- expanding in sales and distribution network</li> <li>- long-term relationships</li> <li>- use the competitor network to help out</li> </ul>	<ul style="list-style-type: none"> <li>- key for sustainability and growth</li> <li>- 1 to 2 new projects every day</li> <li>- search always for innovations and new</li> </ul>	<ul style="list-style-type: none"> <li>- strong financial position</li> <li>- market information</li> <li>- cash on the bank</li> <li>- flexibility</li> <li>- be flexible also in kind of taking new</li> </ul>	<ul style="list-style-type: none"> <li>- keeping employees during a crisis</li> <li>- give incentives (partial ownership)</li> <li>- good wages</li> <li>- engage employees for the company</li> </ul>	<ul style="list-style-type: none"> <li>- fast decision making</li> <li>- long-term relationships</li> <li>- take the crisis easy</li> <li>- do not pull the</li> </ul>	<ul style="list-style-type: none"> <li>- talk immediately about problems or changes</li> <li>- no change during crisis nor during stable market condition</li> <li>- communicate to calm people down</li> </ul>	<b>positiv</b> <ul style="list-style-type: none"> <li>- growth of 10% every year also during the crisis</li> <li>- made heavy investments</li> </ul>



		capital for investments - 5-year plan - having a strong financial position - long-term strategy - not plan theoretically - lower the risk of projects - lower cost for administration - find new segments	customers - focusing 80% on new business - take only new projects with high profit	in production	market opportunities - innovations where pushed by the customers	orders (space in the production) - be fast - keep the cash in the company to invest	- create a long-term engagement - avoid too much turnover in people - trust each other - give people work during the crisis	brakes - manager must act on occurring crises - meet immediately if something sudden occurs - crises is positive - take the opportunities day by day - be open minded - careful in decision making - find new segments - everyone should have the same mind-set		
	<b>Arterm - Staffan Lundegård</b>	- 90% of the market gone in a day - Owned by equity bankers pre-crisis - Bought by the managers for 1 kr during crisis - Downsized everything not profitable - Worked really hard with banks for years to fix debts - Designed strategies and plans for everything	- Downsized product portfolio - Focussed on core business - Moved into only blue ocean strategy (less risk) - Started to be more creative to stabilize the company - Put a focus on finding and expanding in new markets, not only focusing on the most profitable at the moment	- Network is very important for the company - The company is largely affected by politicians - Lobbying is a part of the business, trying to increase cost for fossil fuels and increase subsidies for renewable energy - Works with competitors in branch organisations	- 20/25% of the engineers work is put towards R&D - Plans far ahead, always think about new products for the future, next and second next generation - During crisis some cut downs in R&D had to be made to save money	- Has a good plant - Smart employees - A lot of capital is bound up in material and stock - Liquidity is a problem due to debt - External funding exists but requires 50% self-financing from the company	- 25% of the employees are indifferent - 75% are spurred by the crisis and keeps fighting - People who don't like change leaves the company - Due to the size of the company, employees grow close to the company	- Always stay positive - The fundamentals (being green) for the company is there - Reduce risk anywhere possible - Say no all new projects that are not guaranteed to make profit	- One of the most important part of crisis - Be transparent with everything - Provide as much information as possible for the employees - Always bring things up from a positive side	<b>negative</b> - management take over because of insolvency - necessary restructuring - downsizing everything - started finding new markets and business

	<b>Bending Group - Tomas Ragnarsson</b>	<ul style="list-style-type: none"> <li>- The company didn't do any changes in strategy</li> <li>- The company only did cost cutting measures</li> <li>- The strategy was designed</li> <li>- Be flexible in production</li> <li>- Has no plan for a future crisis</li> </ul>	<ul style="list-style-type: none"> <li>- Tried to expand into the tray market, after the crisis it became bigger</li> </ul>	<ul style="list-style-type: none"> <li>- Competitors are more like partners</li> <li>- Is a small actor between bigger companies</li> <li>- Need a bigger customer to work with if they want to expand in the future</li> </ul>	<ul style="list-style-type: none"> <li>- Larger investment was made pre-crisis in production plant</li> </ul>	<ul style="list-style-type: none"> <li>- Resources was not hard to get</li> <li>- Big fluctuations in prices</li> <li>- Banks not possible to get a hold of during crisis</li> </ul>	<ul style="list-style-type: none"> <li>- Employees understand the situation</li> <li>- People get more intimate with the company during the crisis</li> <li>- Employees get self-motivated when they get to stay</li> </ul>	<ul style="list-style-type: none"> <li>- Stay calm and wait</li> <li>- Cut costs</li> <li>- Surviving is an collective effort</li> </ul>	<ul style="list-style-type: none"> <li>- Informed the employees about the situation</li> </ul>	<b>negative</b> <ul style="list-style-type: none"> <li>- only cost cutting</li> <li>- started searching for new business opportunities</li> </ul>
	<b>Luma Metall - Mats Holmqvist</b>	<ul style="list-style-type: none"> <li>- The company had to rethink their entire business</li> <li>- Cutting down everything not profitable</li> <li>- Focused on new product segments</li> </ul>	<ul style="list-style-type: none"> <li>- Went into markets that were not so affected by crisis</li> <li>- Focused on markets that were governmentally funded</li> <li>- Hired 2 doctors to fix problems with the products</li> </ul>	<ul style="list-style-type: none"> <li>- Works on special projects</li> <li>- Suppliers and customers are more seen like partners</li> </ul>	<ul style="list-style-type: none"> <li>- Innovation is a part of the business</li> <li>- The doctor help with the chemistry of the products</li> </ul>	<ul style="list-style-type: none"> <li>- Uses rear metals</li> <li>- Prices fluctuated during crises</li> <li>- Banks nowhere to be found during crisis</li> </ul>	<ul style="list-style-type: none"> <li>- Jokes about the company being immortal</li> <li>- Military approach to keep employees in line</li> </ul>	<ul style="list-style-type: none"> <li>- We will survive no matter what</li> <li>- Focus on markets that are stable</li> <li>- Trust in the employees</li> </ul>	<ul style="list-style-type: none"> <li>- Be transparent</li> <li>- Explain as much as possible</li> </ul>	<b>neutral</b> <ul style="list-style-type: none"> <li>- Investment in knowhow</li> <li>- focus on profitability and stable markets</li> <li>- started searching for new markets</li> </ul>

	<b>Rörvik Timber - Johan Jaensson</b>	<ul style="list-style-type: none"> <li>- The company was surprised by the crisis and took a big hit</li> <li>- Generated highest profit in fifteen years right before the start of the crisis</li> <li>- Only made short-term investments</li> <li>- Waited out the crisis</li> <li>- When all payments stopped, Rörvik Timber was forced to use governmental intermediaries to secure payments</li> <li>- Was left with a high stock which could not be sold due to dropping orders</li> </ul>	<ul style="list-style-type: none"> <li>- Core business bleeding financially</li> <li>- Focus on niche markets which resulted in higher product margins</li> <li>- Production of wood mills stopped</li> <li>- Focus on efficiency to prepare for the time after the crisis</li> <li>- Only doing 'already in harbour' projects to ensure some payments and the company was not overproducing</li> </ul>	<ul style="list-style-type: none"> <li>- No optimal network situation</li> <li>- Crisis hit hard because they were not aware</li> <li>- Went in reconstruction</li> <li>- Damage in reputation</li> <li>- Customers left, as they chose for alternatives</li> <li>- Big efforts in building new relationships</li> </ul>	<ul style="list-style-type: none"> <li>- Investments of nearly 100% of profits into expansion and improvements of sawmills</li> <li>- No need for additional innovations as the company was running at full capacity</li> <li>- When the crisis hit, there was no room for innovation, as the company cut costs</li> <li>- Taking orders for niche markets that machinery was already adapted for</li> <li>- Lack of orders resulted in additional maintenance</li> </ul>	<ul style="list-style-type: none"> <li>- Already present</li> <li>- Wood stocks could be stored without problems</li> <li>- Tried to keep finances in house</li> <li>- Lack of cash eventually lead to reconstruction</li> <li>- Low liquidity and solidity made the company vulnerable to change</li> </ul>	<ul style="list-style-type: none"> <li>- Try to keep motivation up by reallocation of tasks</li> <li>- False information and rumours spread</li> <li>- Employees were laid off</li> <li>- Motivation dropped as a cause of these developments</li> </ul>	<ul style="list-style-type: none"> <li>- Mangers were focussing on the 'world of tomorrow'</li> <li>- Attempts to save the core-business</li> <li>- Prepare the plant for more prosper times</li> <li>- Try to stay motivated and energized even though the market was down</li> </ul>	<ul style="list-style-type: none"> <li>- Rumors required an open and transparent company culture</li> <li>- No need to hide anything from employees</li> <li>- Transparency was the key to employee trustworthiness</li> </ul>	<b>negative</b> <ul style="list-style-type: none"> <li>- insolvency</li> <li>- downsizing everything</li> <li>- started to focus on the time after the crisis</li> <li>- start searching for new higher profit businesses</li> </ul>
	<b>Trelleborg Sealing Solutions - Anders Broberg</b>	<ul style="list-style-type: none"> <li>- Noticeable decrease in orders</li> <li>- Trelleborg starts delivering more to the aftermarket, where there was an increase in business potential</li> <li>- Lost 25% of total sales over two years</li> <li>- Pulled the brakes to</li> </ul>	<ul style="list-style-type: none"> <li>- Conglomeration</li> <li>- Segmentation through different industries such as ice cream, mining, distribution</li> <li>- From 2000 onwards, focus solely on industrial sector</li> <li>- three big investments were made right before</li> </ul>	<ul style="list-style-type: none"> <li>- Tried to focus on understanding customer situations</li> <li>- Easiest way to find out where the market is going is by obtaining information from your customers</li> <li>- Economic</li> </ul>	<ul style="list-style-type: none"> <li>- Invest in Noise Vibration Harshness (NVH) as well as Apply Damping Material (ADM) to extent business segments</li> <li>- "a company becomes creative during times of</li> </ul>	<ul style="list-style-type: none"> <li>- Much more flexibility when the company became part of Trelleborg Group in 1992, as there was a higher amount of resources available</li> <li>- Cash (flow) is key</li> <li>- Keep cash inside</li> </ul>	<ul style="list-style-type: none"> <li>- Only one employee was laid off</li> <li>- Taking out holidays and working 110% as everyone knew what was at stake</li> <li>- To a lot of employees Trelleborg was like a family-owned business</li> </ul>	<ul style="list-style-type: none"> <li>- "Play it cool" mentality</li> <li>- use the provided time and opportunities to prepare for prosperity</li> <li>- Strong, charismatic leader</li> </ul>	<ul style="list-style-type: none"> <li>- To share information and inform the workforce was key</li> <li>- People are knowledgeable, so transparency is important</li> </ul>	<b>positive</b> <ul style="list-style-type: none"> <li>- made investments</li> <li>- focus on profitability and stable markets</li> <li>- change in sales from serial production to aftermarket</li> </ul>

		understand the situation - Cutting down costs wherever necessary - Got a lot of strategic directions from the Trelleborg Group - Reallocation of employees, as sending them home will result in higher preparation time for prosperity - Interference of Trelleborg Group made it difficult to invest	the crisis - Buying up a painting company - Extension of a production unit - Buying a company manufacturing pre-treated steel, which gave Trelleborg the ability to purchase raw steel from the market - Increase in profit of 12% to 15% of this department - Seeking for possibilities to have a 'third leg' in medical sector, which is much more stable	downturn or prosperity, maintaining strong relationships is key	economic crises"	the company, only pay when it is absolutely necessary - Information is easily accessible, managers should utilize this resource - The company's strong motivation and persistence through (economic) downturn	- High level of loyalty			- only 25% loss in two years (average in this industry was 70% loss) - 12% to 15% profit increase
Compression of findings	The AMB and Amokabel managers are very similar in their strategies, towards creating an antifragility SME. Both found that you have to find new market segments and that you can not find those without a crisis. Furthermore both company managers work on long-term strategies and relationships. They used the crisis to invest as much as possible in opportunities which occurs. This is possible because of a strong financial position.	All company managers said, that you have to search for new business opportunities to stable your business and spread the risk. If possible focus on projects or products with a high profit margin. Managers have to prepare the company for the time after the crisis. Because of a strong financial position, AMB, Amokabel and Trelleborg Sealing Solutions used the crisis to invest which ends up in a profit for all of them. Luma Metall	For all managers the networks play an important role but not all the companies or managers use the network in the same way. A network helps in finding new business opportunities, finding innovations or securing the business like lobbying. Managers from AMB and Amokabel are focusing on long-	All managers name innovations as one of the keys to success. Nevertheless, some of the managers cutted down costs in innovations during the time of economic crisis, because of the cost reduction strategy.	During a crisis cash is king! All managers show, that the companies must have enough liquidity and solidity. Furthermore the flexibility of the company the managers identified as important. The resources such as employees, necessary information (market information) and quick decision	To motivate the employees the managers used different strategies. Most of the managers found that the crisis increased the loyalty of the employees. Furthermore in times of crisis it is important to give the employees tasks to fulfil. 2 of 7 companies kept nearly all employees.	2 of 7 managers found that the crisis is something positive and that change is necessary. They used the crisis to find new opportunities and businesses and made fast decisions. All managers tried to keep the motivation high and take the crisis as easy as possible. Be prepared for	Managers have to talk openly, transparency is important, do not hide anything, communication does not change during economic crisis nor during stable market conditions, answer questions fast		

	<p>Interesting is, that non of the managers had a concrete plan how to react on a crisis. Although there where some strategies designed for the business future. The Ariterm, Bending group, Luma Metall, Rörvik Timber and Trelleborg Sealing Solution managers where more focused on cutting down costs and shut down all programs without visible profits. Non of those company managers changed the main strategy during times of crisis.</p>	<p>invested in Knowhow (hired 2 doctors) although the had not a good financial background. Amokabel focused most on new business but had a fixed revenue with its old customers. Ariterm focused on the core business but tried to have blue ocean strategies. Luma Metall tried to secure the business by selling to the governmentally funded market. Trelleborg Sealing Solution started focusing more on the main business but tried to spread the risk by setting up more business segments.</p>	<p>term relationships within the networks. Also the Trelleborg Sealing Solutions and Rörvik Timber managers put effort in building new strong relationships. Customer, competitor and supplier networks are the most common ones.</p>		<p>making are named at the same level.</p>		<p>the time after the crisis. Strong leaders are needed. Within the company and the employees as well as the managers the mind-set should be the same.</p>	
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