



# **The Effect of Social and Environmental Sustainability on Firm Resilience**

## **A Comparative Case Study on the Norwegian Airline Industry**

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## **ABSTRACT**

How does sustainability affect an airline's resilience in increasingly turbulent environments? This study develops a theory of four variables linking sustainability and resilience. The research is conducted through a comparative case study on two players in the Norwegian airline industry, Norwegian Air Shuttle ASA and Scandinavian Airlines AB. The research found that sustainability can lead to resilience through environmental-, stakeholder-, innovation- and cost-orientation. The airlines covered in this study that engage in sustainability through these four variables were more resilient to shocks and disruptions.

## **1 RESILIENCE IN THE WORLD OF "MEGA-CHALLENGES"**

In the last 50 years, the corporate growth model has brought economic and civil revolution to the western world and "western" is now a synonym with developed economy and prosperous wealth. With a population of 7 billion people, urbanization and rising pollution is putting extreme pressure on the environment and the world's resources (The Global Commission on the Economy and Climate, 2014). Global consumption of resources increased by 50% since 1990 and with the current population growth, the global energy demand will require 80% more energy in 2050 (The Global Commission on the Economy and Climate, 2014, p. 46). The challenge now is to create a global economy that the planet can sustain for years to come (Hart, 1997). Executives, researchers and consumers alike are now questioning the viability of continuing the trajectory of achieving profit maximization exclusively. According to Winston (2014) *"business cannot succeed on a planet that fails"* (p.59) and with the existing levels of resource exploitation, our natural environment is deteriorating. Traditional business or "business as usual" needs to move from steady resource deteriorating evolution towards transformation.

This study aims to explore the relationship between sustainability and resilience. The study refers to resilience as a firm's ability to survive and sustain its level of performance regardless of disruptions from the macroeconomic environment. Hamel and Valikangas (2003) characterize a resilient firm as *"Any company that can make sense of its environment, generate strategic options, and realign its resources faster than its rivals"* (p.13).

The research setting of the study is the airline industry, which is characterized as highly volatile to external events, strongly competitive and capital intensive. Due to its particularly intense nature, the research was confined to explore the Norwegian airline industry, consisting of two main players, Scandinavian Airlines AB (SAS) and Norwegian Air Shuttle ASA (Norwegian). SAS and

Norwegian cover 73% of the total passenger market from Norway's (Avinor run) airports<sup>1</sup> (Avinor, 2013a). In the past 15 years, the Norwegian air transportation market has suffered from extreme competitive powers and subsequent price wars resulting in decreased earnings and severe survival challenges. Furthermore, the industry is under particular pressure from the external natural and economic environment.

The study is structured around four main queries. The first is to find ways to evaluate to what extent the two airlines are resilient to four selected disruptions occurring between 2001-2010. Discovering any potential differences in resilience levels respective to the nature of the shock is important in order to develop a picture of the airlines' overall resilience. Secondly, the study investigates what types of strategies the airlines pursued prior, during, and a priori the occurrence of the shocks. This exploration is conducted in order to get a better understanding of the strategies that might be attributable to resilient companies. Thirdly, the study attempts to explore the levels of social and environmental engagement by turning to the sustainability initiatives and corporate mindsets. Finally, the study combines the findings in order to find links between the airlines' sustainability measures and ability to develop resilience.

According to the transition pathway theory by Geels and Schot (2007), the occurrence of regime shift depends on the nature and timing of multi-level interactions in combination with the landscape pressure. The theory links the external environment and the development of the new regimes, indicating that the external environment can cause complete market reorientation (Geels & Schot, 2007). Winston (2014) argues that businesses have to adapt to the extreme social and environmental challenges in order to survive. After all, "*citizens are the ones who ensure the market system on which companies depend*" (Margolis, Elfenbein, & Walsh, 2009, p. 27).

Over the past years, we have seen hugely successful innovations leading companies to fame and fortune while being sustainability oriented. Elon Musk's electricity powered sports car Tesla recently became the number one selling car in Norway (Dagenborg, 2013). The video-call service Skype opened up the opportunity for virtual meetings and consequently limited necessary travel time for many businesses (Skinner, 2010). According to Nidumolu, Prahalad, and Rangaswami (2009) "*Traditional approaches to business will collapse, and companies will have to develop innovative solutions*" (p.9). Sustainability is often about reducing consumption, which also is common ground for cost cutting strategies. Being able to keep costs under control, may allow the flexibility to be resilient

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<sup>1</sup> Avinor AS is a state owned air traffic control entity under the ownership of the Norwegian Ministry of Transport and Communication. Avinor is responsible for the 33 of the 45 civil airports in Norway. The airports not operated by Avinor is limited to smaller secondary airports with less frequency (Avinor, 2013a; Olsen, 2014).

to shocks. For instance, De Geus (2002) argues that money can be useful in buying a firm time to develop new growth strategies.

Given the limited research on the relationship between sustainability and non-financial performance indicators, this study finds support for conducting a case study approach to theory development. As we are now standing at the crossroads of continuing “business as usual” and start turning to the critical social and environmental needs, discovering the role of sustainability in the prospects of economic growth is becoming increasingly important. Given the highly competitive, rapidly changing and unpredictable nature of the 21<sup>st</sup> century marketplace, characteristics for survival and long-term prosperity is becoming increasingly difficult to identify.

### **1.1 Problem Statement and Research Question**

The most pressing issue in today’s businesses is how to survive the increasingly competitive market with a natural environment that is on the verge to collapse and billions of people screaming for help. It is essential for business to attempt to discover ways in which we can create mutual benefits for the environment, society and business, or famously referred to as the triple bottom line (Elkington, 1997). The research question of this study aims to contribute to current research in building a theory of how business can benefit from social- and environmental sustainability. The research question is as follows:

*“How does social and environmental sustainability affect a firm’s resilience?”*

#### **Overview of the Text**

This study aims to extend current theories on sustainability and resilience. To do so, the current literature on the topic is explored in the first part of the paper. The potential relationships between the two concepts are visualized in a conceptual model. The choice of industry and firms is carefully justified in the third section. Furthermore, methodological choices are thoroughly described in the succeeding section and are written with the intention to offer transparency and frankness into the research process. Lastly, the quantitative- and qualitative results are presented, followed by discussion, limitations and conclusion to this study and its findings.

## **2 THEORY DEVELOPMENT AND LITERATURE REVIEW**

Increasing global wealth, improved technology and shorter relative distances due to globalization has left the competitive landscape more easily accessible (Rogoff, 2003). The number of entrant firms is booming, essentially making profits from product and service ideas that many would regard as unimaginable a few years ago (Downes & Nunes, 2014). Incumbent firms feel gradually more pressured and profits become slimmer. To make matters worse, the long list of mega problems coming to the forefront in global political discussions is generating a greater awareness of the challenges ahead. The result is extreme competitive environments, price wars, socio-political crisis and resource depletions (Hardin, 1968).

This chapter aims to discuss the existing research on the sustainable business strategies and the possible commonalities with resilient capabilities. The chapter explores the links between sustainability initiatives towards the environment, stakeholders, innovation, costs and their effect on resilience. Lastly, the links will be presented in a preliminary conceptual model.

### **2.1 Environmental Pressure on Business**

The relationship between the environmental performance and business performance has been heavily debated over the past decades (Berry & Rondinelli, 1998; Christensen & van Bever, 2014; Cochran & Wood, 1984; De Geus, 2002; Dyllick & Hockerts, 2002; Griffin & Mahon, 1997; Karnani, 2007; Margolis et al., 2009; Seifert, Morris, & Bartkus, 2004; Teigão dos Santos & Partidário, 2011; Walley & Whitehead, 1994). The traditional belief that environmental initiatives are regarded as a cost rather than investment is both supported and disputed by many. According to Walley and Whitehead (1994), environmental response will always be regarded as costly and complicated by managers and provide little economic return. Freedman and Jaggi (1982) studied the effect of pollution disclosure on pollution performance and economic performance. Whilst large and poorly performing firms had detailed pollution disclosure, no evidence was found indicating a relationship between performance and disclosure in small companies (Freedman & Jaggi, 1982).

Fogler and Nutt (1975) tested the relationship between negative publicity and stock performance in paper companies. The findings revealed no stock sell-offs when the companies were cited as polluters, resulting in little or no effect on the stock price valuation (Fogler & Nutt, 1975). Whilst environmentally conscious investors might sell stock after such publications, other irresponsible investors will buy, hence such theory will only be valid under the assumption that all investors are environmentally conscious. Given the timing of the study, the results might differ today as today's

pressure from society potentially results in more environmentally conscious businesses and investors (Tullberg, 2005).

On the other side of the debate, there is a general argument that engaging in environmental incentives has a positive effect on business performance. Many researchers distinguish between responsive and autonomous Corporate Social Responsibility (CSR) (Anderson & Tushman, 1990; Dyllick & Hockerts, 2002; Tullberg, 2005). Responsive CSR includes both reactive and proactive incentives and have been coined in the term “greening” by Hart (2010). Greening technologies include acts such as pollution prevention and product stewardship that was introduced in the late 1980s and early 1990s (Hart, 2010). Reactiveness refers to initiatives introduced as a response to public demand or the fear of bad publicity, whilst pro-activeness is a few steps ahead and include initiatives implemented on the bases of criticism-avoidance (Tullberg, 2005). Autonomous CSR is independent and is referred to by Hart (1997) as “beyond greening” technologies. Companies pursuing autonomous CSR strategies attempt to be differentiated for fulfilling their own standards and typically have no ambition to initiate additional general standards (Tullberg, 2005). According to Hart (1997) many executives fail to realize the growth opportunities associated with autonomous or “beyond greening” strategies. Incorporating the environment into the business strategy is what constitutes clean technology, when companies invest in tomorrow’s strategies (Hart, 1997).

More than 15 years ago, Berry and Rondinelli (1998) argued that firms incorporating the environment in their strategies are more efficient and competitive. Investing in environmental sustainability has been found to pay off (Orlitzky, Schmidt, & Rynes, 2003; Russo & Fouts, 1997) and to an even greater extent in times of industry growth (Russo & Fouts, 1997). Whilst some argue for the return on investment, researchers have also argued for sustainability investments as a potential source for competitive advantage (Hart, 1997; Porter & Kramer, 2006). The Global Commission on the Economy and Climate recently backed up the latter view in The New Climate Economy Report, where they claim that combating climate change and economic growth are not mutually exclusive strategies (The Global Commission on the Economy and Climate, 2014).

### **2.1.1 The Drivers of Ecological Responsiveness**

Several studies have aimed at discovering the motives behind corporate greening (Pratima Bansal & Roth, 2000; Berry & Rondinelli, 1998; Epstein & Roy, 2001; Nidumolu et al., 2009). Pratima Bansal and Roth (2000) identified four main drivers of corporate ecological responsiveness: legislation, stakeholder pressure, economic opportunity and ethical motives.

Increasing penalties and legal acts towards companies who fail to comply with laws and regulations has caused many executives to sharpen their environmental policies and introduce consistent controls (Pratima Bansal & Roth, 2000). Furthermore, a wide range of stakeholders, including local communities, customers and interest groups puts pressure on companies to engage in corporate environmental responsibility (Pratima Bansal & Roth, 2000; Berry & Rondinelli, 1998). The economic opportunity is what encourages many business leaders to embark on the environmental adventure (Hart, 1997; Porter & Kramer, 2011; The Global Commission on the Economy and Climate, 2014). Prospects of cost-reductions, increasing efficiency and public awareness can be achieved through green marketing, waste reduction and corporate reputation (Pratima Bansal & Roth, 2000). Lastly, ethical motives account for much of the initiative introduced in the recent years. Ecological initiatives are often attributable to one single person in the organization, who decides to champion the organization's current ecological performance (Pratima Bansal & Roth, 2000).

By combining Pratima Bansal and Roth's (2000) five drivers of economic performance with resilience, overlaps become apparent. According to Winston (2014), the current environmental challenges require fundamental restructuring of businesses. Although governments, activists, consumers and researchers can promote the environmental agenda, businesses are the entities with the talent, resources and innovation to tackle such challenges (Winston, 2014). Resilience refers to long-term survival, shock avoidance and recovery (Gilbert, Eyring, & Foster, 2012). Relying on strategies that are not actively contributing to the relief of global climate changes and resource constraints consequently may affect resilience. As today's businesses rely heavily on nonrenewable resources and the world is approaching a time when these will be either limited or obsolete, it will make good business sense to develop strategies that minimize our reliance on such resources. According to Folke (2006), humanity's pressure on the ecosystems can cause sudden regime shifts towards less desirable states and hence affect firms' resilience. After all, *"business cannot succeed on a planet that fails"* (Winston, 2014, p. 59).

## **2.2 The Power of Stakeholders**

Stakeholder management is an important part of business. In recent years, some claim that stakeholders are becoming increasingly demanding due to rising incomes and spread of education (Berry & Rondinelli, 1998). The deliberate debate on the relationship between social responsibility and business is *"one of the most researched, yet least understood topics within the field of business and society"* (Seifert et al., 2004, p. 136). Since the 1960s, the effect has been measured on financial performance and researchers have taken several opposing stands (Cochran & Wood, 1984). The famous critic Milton Friedman argues that the singular responsibility of organizations is to

increase profits (Friedman, 2007). In relation to this argument, Locke (1996) proclaims shareholders to be the only stakeholders in the minds of business (Griffin & Mahon, 1997). However, when arguing for the negative effect of CSR on financial performance, many researchers use the value of shares to estimate financial performance (Clarkson, Li, Richardson, & Vasvari, 2011; Davidson, Chandy, & Cross, 1987; Seifert et al., 2004; Vance, 2001). A study conducted by Vance (2001) found that investing in socially responsible stocks does not yield a higher return, but essentially yield lower returns (Vance, 2001). Assuming the findings by Vance (2001) hold, investors who refrain from purchasing responsible stocks will be better off, indicating a negative relationship between the share value and CSR.

Stakeholder management is crucial for building a favorable reputation (Hillman & Keim, 2001). However, stakeholder groups do not only include powerful shareholders. Governmental institutions, consumers, activist groups, employees and the general public also have significant power. For instance, research shows that consumers who perceive a company's socially responsible efforts as genuine, will likely increase their choice of the brand (Barone, Miyazaki, & Taylor, 2000). As many executives regard sustainability as an expense to the shareholders, the true challenge of stakeholder management, is to *"balance the competing demands of various stakeholders"* (P. Bansal & DesJardine, 2014, p. 72).

Interestingly, Porter and Kramer (2011) argue that creating shared value and corporate economic value are not mutually exclusive. Milton Moskowitz (1972) claimed already during the early 1970s that socially responsible firms have the potential to outperform competitors (Vance, 2001). The belief that CSR has a positive effect on financial performance belongs to the majority of publications on this topic (Cochran & Wood, 1984; Hart, 1995; Margolis et al., 2009; Orlitzky et al., 2003; Prahalad, 2006; Servaes & Tamayo, 2013). Bowman (1978) found that the less successful companies in the food industry showed evidence of coping badly with the environment. Additionally, Servaes and Tamayo (2013) found CSR and firm value to be positively correlated, while Orlitzky et al. (2003) found social responsibility to have an even greater pay-off than environmental sustainability. More recent studies deal with the possibilities for enhanced growth by focusing on new consumer markets. The debate even stretches to claims that businesses should turn to the largely untapped market of the global population living on less than \$2 a day (Karnani, 2007; Prahalad, 2006). This proportion of the population is referred to as the Bottom of the Pyramid (BOP) and can provide further growth for multinational corporations while simultaneously alleviating poverty (Karnani, 2007).

While various stakeholder groups have the power to push businesses in the direction of sustainability, the downside may become apparent in the event of failure to comply with demands. Failing to satisfy stakeholders could harm company resilience. Corporate sustainability has been defined by Dyllick and Hockerts (2002) as *“meeting the needs of a firm’s direct and indirect stakeholders without compromising its ability to meet the needs of future stakeholders”* (Dyllick & Hockerts, 2002, p. 131). The definition is a good explanation of the potential relationship between sustainability and resilience, in addition to identifying the role of stakeholders.

### **2.3 Innovation for Survival**

According to Porter (2008), there are two ways one can achieve competitive advantage; through cost leadership and differentiation. What both strategies have in common is the need for innovation to achieve them. The aim of Porter’s Five Forces Framework is to *“raise the odds of discovering a desirable strategic innovation”* (Porter, 2008, p. 7). One of the problems developed over time is that *“western culture has a long history of introducing solutions (particularly technical ones) designed to solve a specific problem, without considering the broader system impacts the solution might have”* (Westley, 2013, p. 7). As businesses rely on resources in order to innovate, the diminishing supply of certain resources may act as a trigger for further innovation strategies (Westley, 2013). In fact, diminishing resources have inspired substitutes to nonrenewable resources through technological innovations<sup>2</sup> (Hart, 1997)

Christensen and van Bever (2014) questioned why corporations, during a time of historically low interest rates, maintain huge piles of cash reserves. They claim that the reason is certainly not due to a lack of investment opportunities, but rather on an outdated assumption that capital is scarce (Christensen & van Bever, 2014). This results in investments in short-term innovations, so-called performance-improving or efficiency-enhancing innovations, rather than market-creating innovations (Christensen & van Bever, 2014). The latter typically requires extensive capital in addition to having a longer payback time, making them rather unpopular among investors and managers. However, only market-creating innovations has the ability to encourage growth, new market expansions as well as creating jobs for the common good (Christensen & van Bever, 2014). Although they are perceived to be more risky, in reality they aim at entirely new markets, free from competition and should therefore be regarded as less risky (Christensen & van Bever, 2014).

Sustainable innovations typically share the same characteristics as market-creating innovations. Beyond greening innovations require extensive use of capital and a long-term payback time,

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<sup>2</sup> Examples include biofuels and optical fiber for copper wire (Hart, 1997)

making it unattractive to shareholders. According to Bain & Company (2012), it is time to renew the system and encourage investors to see the potential of huge returns from long-term investments and for managers to realize that long-term sustainable innovations can create a more secure futuristic growth scenario. By encouraging sustainable innovations, companies can reap additional benefits from reduced input, increase revenues and gain first-mover advantages (Nidumolu et al., 2009).

Several of the benefits with sustainable investments have overlapping characteristics with resilience. In order to be resilient, companies need to invest in long-term strategies and avoid short-termism, according to Hart (1997). Christensen and van Bever (2014) argue that investing in market-creating innovations positively affects resilience. The arguments fits well with the claim by De Geus (2002) stating that failing companies only invest in a fraction of their potential. Businesses are the only organizations with the resources, dedication and skill to develop these innovations that have enormous relieving impact on society and the planet's resources (Hart, 1997). According to Westley (2013), social innovation and resilience both share characteristics such as evolution, adaptation and transformation, which also supports De Geus' (2002) view that businesses need to develop learning abilities in order to adapt to the changing world.

## **2.4 Sinking the Cost Struggle**

Investments in sustainability initiatives may bring additional cost reducing benefits to companies. Traditionally, many executives and managers viewed sustainability as additional costs to the company and only introduced initiatives as a form of regulatory compliance. Even with such justification for partaking in sustainability initiatives, companies protect themselves from costly process changes, product amendments, fines or even lawsuits (Hart, 1997; Nidumolu et al., 2009). Recent views also indicate that there are great cost-benefits associated with sustainability, as companies rely on fewer resources or recycle used input (Nidumolu et al., 2009). According to Berry and Rondinelli (1998), certain ways of engaging in sustainability will lead to cost savings in relation to waste reduction. According to Porter and Kramer (2011) *“environmental performance can often be achieved with better technology at nominal incremental cost and can even yield net cost savings through enhanced resource utilization, process efficiency, and quality”* (p.69).

Hart (1997) suggests three stages in environmental strategies that can be sources of cost reductions. Pollution prevention refers to strategies that eliminate the creation of waste and is considered a highly cost-saving strategy as it limits costs associated with pollution clean ups and waste management (Hart, 1997). The second stage is product stewardship and refers to complete responsibility for your own products through the entire value chain (Hart, 1997). This is also

referred to as cradle-to-cradle, where producers take control of the product throughout its life cycle. This can potentially reduce costs as it forces the company to carefully consider the entire product life cycle and aim for making it as efficient as possible. Additionally, product stewardship creates opportunities for revenue growth through product differentiation (Hart, 1997). The third and last stage is clean technologies, which refers to long-term investments in new technology, i.e. market-creating innovations (Christensen & van Bever, 2014; Hart, 1997).

Drawing upon the literature, it becomes apparent that much of the cost reductions occur in the supply chain, allowing for the creation of links between sustainability and supply chain management. Melnyk (2014) argues that ensuring resilience in the supply chain is crucial in today's turbulent and unpredictable world. Disruptions to the supply chain can pose great threats to business survival by affecting the company's resources, financials and efficiency in production processes (Melnyk, 2014). Additionally, Melnyk (2014) makes the distinction between resistance (proactive) and recovery (reactive) capabilities for resilience and lists a number of investments that may strengthen a company's resistance or recovery (p. 36). Heavy investments in discovery, or market-orientation is estimated to have a very strong effect on avoidance, whilst companies found in industries with high uncertainty will benefit from investments in operating flexibility as a recovery strategy (Melnyk, 2014).

## 2.5 Resilience

C.S. Holling first coined the term *resilience* in 1973, and although referring to ecological resilience among living organisms, it remains relevant today. Resilience can be described as the critical feature that reflects the capacity of a system to absorb disturbance and reorganize without collapsing (Teigão dos Santos & Partidário, 2011). In this increasingly turbulent, unpredictable and sensitive world, the importance of managing resilience is being increasingly recognized by most businesses (Teigão dos Santos & Partidário, 2011). According to De Geus (2002), the average life expectancy of Fortune 500 companies is between 40 and 50 years, raising the question of what the companies that have been around for a hundred years, such as General Electric, IBM and Lloyd's, are doing so differently. De Geus (2002) identified four common characteristics of longitudinal successful firms: sensitivity to their environment, strong sense of identity, tolerance and conservative financing (De Geus, 2002, p. 6). The first characteristic refers to how resilient companies reap benefits from adapting to the rapidly changing environment by continuously turning to and successfully co-existing with its surroundings (De Geus, 2002). Resilient companies also develop a strong sense of identity, culture and avoid exercising centralized decisions and control (De Geus, 2002). Lastly, companies who believe in a rather conservative financial structure, leaving room for excess cash, have more flexibility to speedily react to arising

opportunities (De Geus, 2002; Taleb, 2010). Company failure is often caused by too tight economic focus and control of production and subsequently neglecting the fact that the company exists of living organisms (De Geus, 2002).

The competitive landscape of the 21<sup>st</sup> century is increasingly being affected by several predictable and unpredictable changes. These disruptions, whether technological or market oriented, tend to create shocks and consequently restructure the competitive landscape. Markets for disruptive technologies are unpredictable and “*experts’ forecasts will always be wrong*” (Christensen, 1997, p.154). Sharing this view, Taleb (2010) claims that rather than attempting to predict the totally unpredictable events, we have to adjust to their existence and avoid making ourselves vulnerable to their occurrence.

### 2.5.1 Disruptive Innovations

The Innovator’s Dilemma by Christensen (1997) describes how great firms fail when faced by certain market and technological changes. Incumbent firms generally focus on improving their existing offering to better fit the demand from the customers and as a consequence often fail to recognize disruptive technologies or new entrants at the horizon (Christensen, 1997). Disruptive technologies typically have a steeper learning curve than sustaining technologies and reach the quality level of incumbent firms much faster than forecasted (Christensen, 1997). Blindly following the dogma that ‘one should keep close to ones customers’ may have fatal mistakes as customers are often struck with the inability to anticipate new technologies (Christensen, 1997). The challenge for managers is to find ways to tackle these disruptions in order for the companies to survive (Dewald & Bowen, 2010).

### 2.5.2 Black Swans

In line with unpredictable disruptive innovations we find unpredictable events. Referred to as Black Swans by Taleb (2010), these events are identified by three characteristics. It is an *outlier*, positioned outside of our expectations because nothing of such nature has previously occurred (Taleb, 2010). It comes with *extreme impact* and our human nature has a habit of seeking answers *post-factum*, which makes us believe that the Black Swan is explainable and predictable (Taleb, 2010)<sup>3</sup>. The unpredictability of Black Swans makes survival in any business even more challenging. Humans (e.g. business leaders) “*need to be robust to negative Black Swans and exposed to positive ones*” (Taleb, 2010, p. xxi). The occurrence of the highly unlikely event can either bring devastating effects or outstanding opportunities to the competitive landscape (Taleb, 2010).

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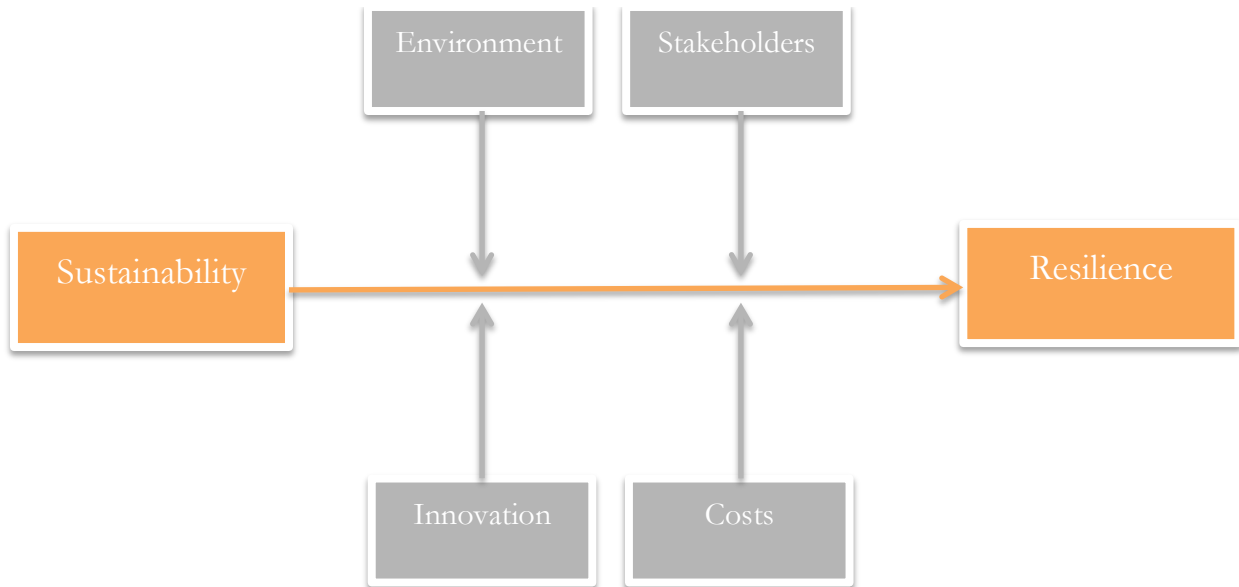
<sup>3</sup> This is referred to as retrospective distortion (Taleb, 2010).

Black Swans can have effects on businesses that typically would not be in any relation to the actual event. For instance, how did the terrorist attacks on 9/11 affect the beauty product industry? According to Cheng (2011), 9/11 initiated extreme growth in small-packaged beauty products due to the increased global airport security. The result is an average annual increase of 10% in 3-ounce (or less) personal care packages since the introduction of the liquid restriction in 2006 (Cheng, 2011, p. 3). The researchers and experts in the beauty department would not at all be able to predict the occurrence of such event, let alone the positive effect on sales.

Taleb (2010) argues that the only way we can limit the devastating effects of Black Swans is to avoid exposing society to these totally unpredictable events. In times where companies already find themselves in exposed positions, the most obvious way to handle is through limiting your consequent risk through insurance (Taleb, 2010). As this is not always a plausible strategy, Taleb (2010) suggests nine rules. One should learn to accept time and non-demonstrative knowledge, supporting the previous discussion on long-termism and short-termism (Taleb, 2010). Secondly, learning to appreciate redundancies refers to maintaining cash and savings in order to prepare yourself for Black Swans (Taleb, 2010). Additionally, one should avoid specializing too deeply, in case your area of expertise one day becomes obsolete (Taleb, 2010). Furthermore, Taleb (2010) argues that one should avoid predicting results from the low-probability events. Expressing caution is crucial when talking about the “atypicality” of occurrences, as they are largely based on historic knowledge and fail to predict new events (Taleb, 2010). The last five rules are largely based on the unreliability of metrics for predicting events. Rule number eight states; “*Do not confuse absence of volatility with absence of risk*” is particularly important, as it has misled many throughout the years and resulted in devastating consequences (Taleb, 2010, p. 373).

## 2.6 Conceptual Model

The following preliminary conceptual model of the antecedents of resilience is derived from the literature review. As seen in the model, sustainability can positively affect resilience through four moderating variables. The remainder of the study aims to discover *how and why* these links do or do not exist. The conceptual model is illustrated in Figure 1.

**Figure 1: Preliminary Conceptual Model**

### 3 THE AIRLINE INDUSTRY

The global airline industry is often characterized as volatile and unstable (Dobruszkes, 2006; Franke & John, 2011a, 2011b; John G. Wensveen, 2009; Wensveen & Leick, 2009). Interchangeable times of growth and decline forces the airline industry to operate in times of adaptation, survival and recovery (Wensveen & Leick, 2009). While airlines' prosperity is closely linked to the economic performance, fuel prices, regulations and the industry has also experienced several Black Swans, making the survivors an interesting topic for investigation.

The following chapter covers the evolution of the airline industry, its challenges and adaptations. Furthermore, it captivates the history of the two airlines included in this study.

#### 3.1 Airline Evolution

The Golden 90s marked the starting point for an increasingly volatile airline industry (Franke & John, 2011a, 2011b; Hamill, 1993). Separated by a period of fluctuating profit growths of 7-9%, the industry encountered unforeseen, yet devastating events following 2000 (Franke & John, 2011a). The dotcom era of the 2000s was followed by three years of economic downturn. At this point, air transportation still belonged to a category of premium products and demand was closely linked to the global economic performance (Franke & John, 2011a). The approach of an economic downturn in the beginning of 2000 therefore contributed to what is referred to as the "perfect storm", consisting of the financial economy, dotcom bubble, 9/11 and SARS (Franke & John, 2011a). What was classified as the worst airline crisis ever in 2001 was followed by a double-

dip recession in 2003 and recovery was reached in 2006, just in time for the devastating recession of 2007-2008 (Wensveen & Leick, 2009).

The oil price in January 2008 was estimated at \$90 per barrel (Franke & John, 2011a). As early as in July the price increased to \$140 per barrel, putting severe pressure on the global airline industry (Franke & John, 2011a). When the economic meltdown hit with the collapse of the financial sector in September, the oil prices of \$40 per barrel did little for the decreasing demand for business- and first-class airfare tickets.

### **3.2 The Black Swans of the Airline Industry**

Both the terrorist attacks of 9/11 and the dotcom era were exogenous, unforeseen events leading to several challenges for the industry. With the dotcom era, consumers are exposed to close to perfect information through the Internet, making product and service decisions increasingly well reasoned (Ward & Lee, 2000). In 2010, an eruption from Eyjafjallajökull volcano in Iceland resulted in an enormous ash cloud and cancellation of flights in Northern Europe (Owen, 2010). The more recent Black Swans was the devastating news of Malaysian Airlines Flight MH17 being shot down by Russian or Ukrainian activist in July 2014 (BBC News, 2014) as well as the Ebola breakout in West Africa in September 2014 (Centers for Disease Control and Prevention, 2014) frightening global travelers.

### **3.3 Disruptive Innovations**

Despite several unforeseen disruptions taking its toll on the performance of the airline market, the industry has been struck by several disruptive innovations. These include platforms such as Skyscanner and Trivago that allow customers to easily compare prices and tickets. Perhaps the greatest, which this study will mainly focus on, was a business model innovation pioneered by U.S. based Southwest airlines in 1973 (Dobruszkes, 2006). The premium business model was built around the business- and first-class customer segment (Franke, 2004). The incumbent airlines used highly discounted economy-class tickets to fill up the excess seats from first- and business-class passengers, which initially financed the economy class tickets (Wensveen & Leick, 2009). When demand for the premium tickets decreased, Southwest took to the skies to meet the needs of the underserved economy-class market (Dobruszkes, 2006).

The Low-Cost Carriers (LCCs) has claimed to operate at a rate of 40-50% of the cost of the Full-Service Carriers (FSCs) (Dobruszkes, 2006), and today this number is expected to be even lower. For instance, Norwegian Airlines operating costs in 2006 was 0.52 NOK per produced seat kilometer (ASK) and in 2013 the airline reported operating costs of 0.44 NOK per ASK, i.e. a 15.28% decrease (Norwegian Air Shuttle ASA, 2013, p. 1). The low costs are achieved through a

number of cost-saving strategies, including flying one standard of airplanes to enforce standardization, point-to-point flying, abandoning hubs, one class only and no “frills” such as meals, newspapers or assigned seating (Raynor, 2011). Further cost-cutting strategies can be found in Table 1. Southwest’s groundbreaking business model led to several new entrants to the market, such as Ryanair, Easyjet, JetBlue and Norwegian who all follow similar cost-cutting strategies.

**Table 1: Low-Cost Carriers**

<b>Characteristics</b>	<b>Strategies</b>
<b>Use of secondary airports</b>	Low cost and fast turn-around
<b>Pressure on workforce</b>	5-50% lower wages and up to 25% more flying time
<b>No travel agent</b>	Internet booking to avoid commission
<b>No frequent flyer program</b>	Eliminate further costs
<b>Limited compensation</b>	For delayed or cancelled flights
<b>Public financing</b>	Direct or indirect
<b>Only one class</b>	No business lounges etc.
<b>Location according to demand</b>	Replace charter or poor train connections
<b>Exclusive destinations</b>	Avoid direct competition
<b>Ancillary revenues</b>	Commission based products i.e. car rental, hotel booking etc.

Source: (de Wit & Zuidberg, 2012; Dobruszkes, 2006; Raynor, 2011)

### 3.4 Sustainability

Growing concern for the effect of pollution on the environment and rising threat of global warming has lead highly polluting industries towards the center for scrutiny and debate. High capital costs- and entry barriers, tendency toward oligopolies and intense regulations makes the airline industry comparable to the manufacturing industry (Lynes & Andrachuk, 2008). Airlines are repeatedly excluded from environmental regulation<sup>4</sup> (Lynes & Andrachuk, 2008; Raynor, 2011), despite its status as a major polluter of Carbon Dioxide (CO<sub>2</sub>) (Lee & Park, 2009). In Norway, air transportation accounts for 3.02% of the total CO<sub>2</sub> emissions (Miljødirektoratet, 2013, p. 1).

<sup>4</sup> The Kyoto agreement (put in force in 2005) is a global initiative to reduce carbon emission. However, aviation is excluded from it (Lynes & Andrachuk, 2008).

The increasingly industrial society with higher educations, higher incomes, more holiday-time combined with the increasing price-war in the airline industry is leading to growing mobility patterns (Gössling & Peeters, 2007). People are travelling more frequently, longer and for shorter periods of time, resulting in air travel continuing to outgrow any other form of transport. The domestic and international flight traffic in Norway is estimated to increase by 97% from 2007-2025 in terms of passenger miles (Bærekraftig og Samfunnsnyttig Luftfart, 2011, p. 3). This enormous growth has caused many to react, as air travel is considered as the “*most environmentally harmful form of tourism with respect to climate change*” (Gössling & Peeters, 2007, p. 403).

The societal, economic and environmental impact of the airlines has been recognized by the International Air Transport Association (IATA) (Lee & Park, 2009) and a growing awareness among stakeholders is putting pressure on the airlines to act responsibly and increase their focus on sustainability (Lynes & Andrachuk, 2008). Current developments of Corporate Social and Environmental Responsibility (CSER) in the airline industry include investments in increasingly fuel-efficient aircraft, carbon-offsetting programs<sup>5</sup>, internal social commitment, waste and water reduction. CSER is defined as “*the voluntary commitment of a firm to contribute to social and environmental goals*” (Lynes & Andrachuk, 2008 p. 378). However, there seems to be a lack of conformity regarding the extent to which airlines choose to engage in CSER.

Lee and Park (2009) claim that social and environmental responsible strategies will become more critical to a prospering future in the airline industry. Their study found a positive linear relationship between CSR and value performance<sup>6</sup>, indicating that airline executives should consider investing in CSER or CSR, as it may increase company value (Lee and Park, 2010).

Although there are a few studies on the topic of sustainability in the airline industry, it remains an under-explored topic (Lynes & Andrachuk, 2008). A case study conducted on the motivations of CSER in SAS found reasons to believe that CSER activities can enhance airlines’ market performance (Lynes & Andrachuk, 2008). The main motivations for engaging in CSER included financial benefits, ability to anticipate future legislation, being a good corporate citizen, increased company value through image or branding, pressure from industry stakeholders and national culture (Lynes & Andrachuk, 2008). As the study by Lynes and Andrachuk (2008) was the first to look at such relationship in the airline industry, current research remains in an embryonic stage.

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<sup>5</sup> Carbon-offsetting programs have been introduced by British Airways, Scandinavian Airlines, Dragon Air and Cathay Pacific, and are designed to let customers participating in the funding of environmental projects (Lee and Park, 2010).

<sup>6</sup> Financial performance measure by EMV and AMV (Lee and Park, 2010).

### 3.5 The Norwegian Airline Industry

Norway is a geographically challenging country to travel in. The long stretches and hilly landscape make automotive and train transportation difficult, especially during the harsh winter months. Furthermore, the health of the economy and steady income from the oil industry makes Norwegians well off in terms of personal economy. The average Norwegian person flies four times a year, compared to twice a year for the average European (Norwegian Air Shuttle ASA, 2014) and the airline industry is largely controlled by two main airlines. Scandinavian Airlines AB (SAS) and Norwegian Air Shuttle ASA (Norwegian) together account for 73% of the total passenger market share (Avinor, 2013b, p. 12).

#### 3.5.1 Regulations

Up until the end of the 1980s, the Norwegian airfare was heavily regulated. Before 1987, individual national routes were limited to one airline (SAS) and prices, number and time of departures were all regulated by the national government (Salvanes, Steen, & Sjørgard, 2003). In October 1987, a second airline (Braathens) was admitted to certain routes and in April 1994, all routes<sup>7</sup> were deregulated and open for competition (Salvanes et al., 2003). The two existing airlines' "50-50" market share was now open to competition from other players (Salvanes et al., 2003).

CO<sub>2</sub> emission tax was introduced on domestic flights in 1999 (Bærekraftig og Samfunnsnyttig Luftfart, 2011). Progressive increase of the tax has been implemented, and in 2011 the tax accounted for 0.69 NOK per liter of fuel (Bærekraftig og Samfunnsnyttig Luftfart, 2011, p. 24). This totals in approximately 270 NOK per ton of CO<sub>2</sub> emission<sup>8</sup>, although it is slightly higher for Jet A-1 (i.e. diesel and domestic heating oil) (Bærekraftig og Samfunnsnyttig Luftfart, 2011, p. 24). Furthermore, an NO<sub>x</sub>-tax was introduced in 2007 (Bærekraftig og Samfunnsnyttig Luftfart, 2011, p. 24). Airlines have the choice of paying the 17.33 NOK per kilogram NO<sub>x</sub>, or a 4 NOK per kilogram to the NO<sub>x</sub>-bond where the money gets reinvested in emission reduction initiatives (Toll Customs, 2014, p. 48). Identical tax on international flights remains absent due to its interference with international regulations (Toll Customs, 2014, p. 11). In January 2012, all European air transport was integrated in the European Union Emissions Trading System (EU ETS) (Bærekraftig og Samfunnsnyttig Luftfart, 2011). Although the price of emission allowances has remained stable after the financial crisis, these are expected to increase to €40 in 2020 and €100 in 2030 (Bærekraftig og Samfunnsnyttig Luftfart, 2011, p. 24).

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<sup>7</sup> Except for "kortbanenettet"

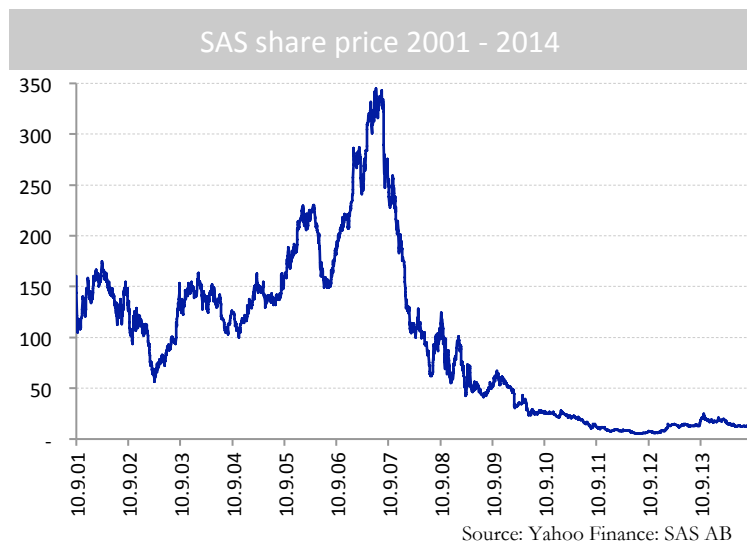
<sup>8</sup> According to an average currency rate of 7,8 in 2011, this is equal to approximately €34,6 per ton.

### 3.5.2 Scandinavian Airlines AB

From Danske Luftfartselskab A/S (DDL), Det Norske Luftfartselskap A/S (DNL) and Svensk Interkontinental Lufttrafik AB (SILA), SAS was formed in 1946 (SAS Group, 2004). As the only airline in the world with double environmental accreditation (ISO14001 and EMAS), SAS consistently pride itself as one of the most environmentally conscious companies in the airline industry (SAS Group, 2004).

Since the beginning of the 2000s, increasing competition and a number of disruptions had a devastating effect on SAS' earnings. Throughout the last 15 years, SAS has introduced several strategic changes largely based on cost-cuts in an attempt to remain competitive. With an operating revenue of MSEK 42,182 in 2013 and serving 1/3 of the total Scandinavian

Figure 2: SAS share price

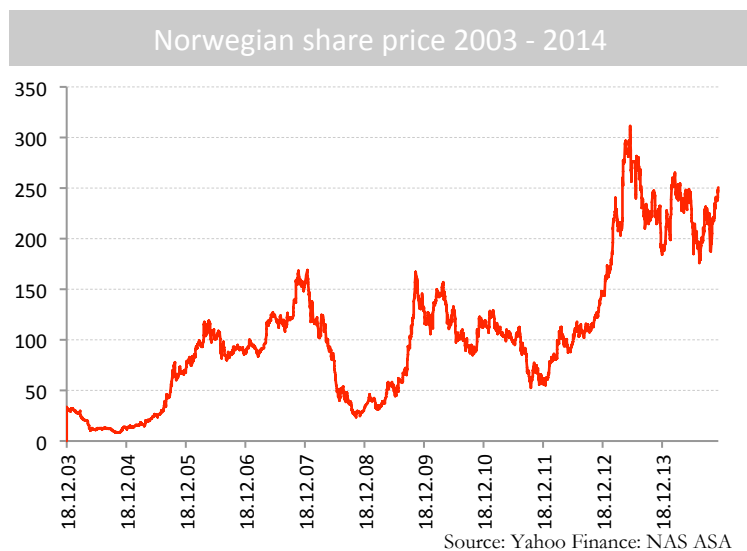


passenger market, SAS remains the largest airline in Scandinavia (SAS Group, 2013). Figure 2 is a graphical representation of SAS' share price from 2001 throughout 2014.

### 3.5.3 Norwegian Air Shuttle ASA

Norwegian is a low-cost airline established in 1993 and with 416 routes, it is the second largest airline in Scandinavia (Norwegian Air Shuttle ASA, 2014). The airline recently decided to renew and extend its fleet park and invest heavily in more fuel-efficient aircraft. Norwegian currently has the most modern and environmentally friendly park with an average age of

Figure 3: Norwegian share price



4.8 years (Norwegian Air Shuttle ASA, 2014). Norwegian had an operating revenue of MNOK 15,580 in 2013 and a marked share at Oslo Gardermoen Airport of 40% (Norwegian Air Shuttle

ASA, 2014). Figure 3 is a graphical representation of Norwegian's share price from IPO in 2003 throughout 2014.

### 3.5.4 Disruptions

The study focus is on four selected shocks occurring in the period 2001 – 2010. The four selected shocks are listed in Table 2.

**Table 2: Shocks**

<b>Disruption</b>	<b>Date</b>	<b>Sustainability Performance</b>	<b>Share price analyzed from</b>
Terrorist Attack 9/11	11.09.2001	1999 - 2001	10.09.2001
Financial Crisis	2007 - 2008	2005 - 2008	08.08.2007
Ryanair open base in Norway	30.09.2009	2000 - 2002	30.04.2009
Eyjafjallajökull Eruption	04.04.2010	2008 - 2010	15.04.2010

#### **September 11<sup>th</sup>, 2001**

The financial year of 2000 was a promising year for the airline industry. Scandinavian Airlines delivered an EBT of MSEK 2,773 with optimism for the future (SAS Group, 2000, p. 4). To renew the fleet according to their 10% growth strategy over the next years, SAS invested in twelve new Airbus A321s (SAS, 2000, p.4), an order which was claimed to contribute to making SAS the most environmental friendly airline in Europe (SAS, 2000, p.4).

The promise of future growth and prosperity was soon put on hold when an economic downturn became reality in the summer of 2001. The tragic and completely unexpected terrorist attack on September 11<sup>th</sup> was followed by the Linate accident on October 8<sup>th</sup>, where SAS was involved and 118 people tragically lost their lives. Additionally, SAS and Maersk were fined by the European Commission for infringement on European competition law and the year resulted in an EBT of MSEK -1,140 (SAS, 2001, p.4).

#### **Financial Crisis**

The second shock under investigation in this study was purely of economic nature and might consequently thrust certain differences. Norwegian went public in 2003, allowing us to acknowledge their performance before, during and after this shock. In the years prior to the financial crisis, Norwegian pursued an aggressive growth strategy. Although delivering red numbers in 2006, the airline remained faithful to their strategy of investing now, reaping later. As

stated in the annual report, “*we are certain that the expansion is necessary to increase the value and profitability on a longer term*” (Norwegian, 2006, p.4). Norwegian delivered an EBT of MNOK 5.3 in 2008, down from MNOK 113 in 2007.

SAS Group was struggling with several ongoing internal conflicts in the years approaching the financial crisis. However, there were no signs of an economic slowdown and SAS announced several new routes. 2006 was also SAS’ best year in terms of environmental performance, low fuel consumption per unit and a good environmental index. In the following year, both Danish and Swedish cabin crew went on strike. Additionally, SAS experienced problems with the Dash 8 Q400s aircraft, when the landing gear collapsed during landing on three different occasions. The devastating economic turmoil during the year of 2008, coupled with the SAS internal conflict and production surge, led to an EBT of MSEK -395 (SAS Group, 2008, p. 2).

### **Ryanair**

The third shock under investigation is Ryanair’s establishment of a base at Moss Rygge Airport. Still recovering from the financial crisis, SAS and Norwegian delivered divergent results. Norwegian passed their 10-million passenger mark, resulting in an EBT of MNOK 623 and making it the best financial year in the airline’s history. IATA forecasted a loss of global airline traffic equal to a total MUSD 11,000 in 2009, however Norwegian managed to oppose the norm by increasing the total revenues, and traffic from Oslo Gardermoen Airport by 15% (Norwegian Air Shuttle ASA, 2009, p. 18). SAS unfortunately experienced the negative earnings anticipated by IATA. With an EBT of MSEK -1.7 the year 2009 was challenging for SAS (SAS Group, 2009, p. 2).

### **Eyjafjallajökull**

The fourth and final shock undertaken by this research is the sudden and unexpected shock of the Icelandic volcano eruption. SAS delivered an EBT of MSEK -435 in 2010, and Core SAS cost saving program received an additional 2.5 billion SEK in funding (SAS Group, 2009, p. 6). In 2010, Norwegian had positive EBT of MNOK 243, down from MNOK 623 in 2009. A large portion of this is due to their heavy investments associated with the aggressive growth strategy (Norwegian Air Shuttle ASA, 2010).

This section uncovered all major events occurring in the timeframe of the shocks. The following section covers a thorough description and explanation of the methodological choices made for this study.

## 4 METHODOLOGY

As described in the previous chapter, the airline industry serves as a great example of a turbulent market affected by technological innovations, business-model innovations, environmental changes as well as several unexpected events. This chapter aims to give a thorough description of the methodological choices of this study. Frankness and transparency are heavily emphasized throughout the chapter. Firstly the chapter covers the case study approach and industry justification, before a candid explanation of the quantitative and qualitative data collection procedure and analysis is presented.

### 4.1 Case Study

The choice of conducting qualitative research is based on the nature of the topic. Current studies on sustainability have largely been built on quantitative data with dependent variables associated with financial and economic performance (Cochran & Wood, 1984; Griffin & Mahon, 1997; Seifert et al., 2004; Wokutch & Spencer, 1987). This study aims to build a new theory on the relationship between sustainability and resilience. As sustainability performance incurs costs and resources to a different set of stakeholders than shareholders, the probability of seeing a direct effect of sustainability on measures of financial performance is unlikely (Margolis et al., 2009). According to the forefathers of grounded theory, conducting qualitative research is an attempt to better understand the underlying factors, the structures, processes and deviances in more complex systems (Glaser & Strauss, 1967), which accurately describes the nature of this study. At a later stage of the theory development, quantitative studies will become a central part of testing the developed theory. By taking on a comparative analysis approach, one generates conceptual categories or evidence, which is later derived to describe a concept and altogether a theoretical abstraction of the topic of study (Glaser & Strauss, 1967).

Given that the topic of research is rather new and not well defined, the approach of conducting a case study is justified. Blumberg, Cooper, and Schindler (2011) describes case studies as “*an empirical inquiry that investigates a contemporary phenomenon within its real-life context [...]*” (p. 256) and the objective of a case study is to investigate a contemporary problem in order to develop “*new explanations and theoretical dispositions*” (p. 256). The case study is built on extensive qualitative data derived from semi-structured interviews and triangulated by quantitative analysis of the respective firms.

### 4.2 The Choice of the Norwegian Airline Industry

Norway’s relatively stable economic performance, especially after 2008, allows the study to be conducted in relative separation of the continued global economic downturn that might affect the

airline industry and its performance. The same year as the Brundtland Commission expressed concerns for sustainable development; the Norwegian airline industry was strongly deregulated and opened up for increased competition in 1987 (Salvanes, Steen and Søgard, 2003, p 386). The stable economy and social system in Scandinavia allows people time to concentrate on issues, such as the sustainability of firms, indicating that the Norwegian people might be more socially and environmentally conscious than people from other nations (Lynes & Andrachuk, 2008, p. 382). The airline industry shows a strong push towards social and environmental consciousness due to the heavy pollution typically associated with air travel (Lynes & Andrachuk, 2008, p.382). The combination of the stable Norwegian economy, focus on sustainability and the number of global disruptions, makes the Norwegian airline industry an ideal market for conducting such study.

### **4.3 Quantitative Data Collection and Analysis**

In order to secure validity and reliability of the study, the case study relies on multiple sources of evidence (Blumberg et al., 2011). Following the suggestion from Glaser and Strauss (1967) the use of both qualitative and quantitative methods is executed. The quantitative data is not testing the qualitative data, instead they complement each other and are used for mutual verification in order to build a well-rounded theory (p.18). Applying multiple sources of data is also referred to as triangulation by Blumberg et al. (2011).

The most recent annual reports of SAS and Norwegian are analyzed and the most recent quantitative data on sustainability performance is collected from the two airlines. SAS publishes annual sustainability reports and have done so since 1996. Norwegian has at the time of writing no publicly available sustainability reports. A thorough analysis of the company's annual report from the period of 2002 (Norwegian IPO was 2003) is conducted as a means of discovering sustainability-related performance indicators. The "Environment" and "Corporate Governance" sections are analyzed in order to determine Norwegian's sustainability performance. SAS' sustainability reports from the period 1999-2013 are analyzed and data on sustainability performance indicators is extracted. The data extracted distinguishes between social (internal and external) and environmental sustainability.

Resilience is measured in term of stabilization of the share price after four major shocks of different nature. The share prices of SAS in the period of 2001-2014 and of Norwegian from 2003-2014 is collected from Yahoo Finance. By creating an indexed share price chart it is possible to accurately compare the share price reaction to the shocks, controlling for the differences in size and financial performance of the two airlines. The first measurement of the share price is done

just before the occurrence of the individual disruptions, e.g. 10.09.2001 for the September 11<sup>th</sup> terrorist attacks. The date where the share price re-bounces and reaches its pre-disruption level is identified and the number of months from the occurrence of the disruption is calculated. With this approach, the analysis provides a better understanding of the resilience of airlines, i.e. their ability to return to equilibrium after a disturbance (Pimm, 1991). The longevity of decreased share price is analyzed together with data on sustainability performance.

Through the selection of a variety of disruptions ranging from financial, environmental, market and terrorism shocks, the validity of the findings is greater. The chosen dates assume all shareholders have perfect information, thus an efficient market. For instance, although threats from Al Qaeda were sent to US intelligence agencies prior to 9/11<sup>9</sup>, no investors had inside information and thus the share price resembles that of an efficient market (Fama, 1970, p. 383). The first initial indicator of the severity of the 2008 credit crunch was discovered when the European Central Bank (ECB) created loans available to 49 banks and financial institutions on August 9<sup>th</sup>, 2007 (BBC News, 2007). Conducting an analysis starting from August 8<sup>th</sup> 2007 is therefore justified.

Although Ryanair started flying to Norway in 1997, their activity was limited to one airport and a few destinations. On September 30<sup>th</sup>, 2009, Ryanair opened base at Moss Rygge Airport south-east of Oslo (Center for Aviation, 2009). Given the large amount of speculations and publicity, the decision was made to analyze the share price a priori, starting six months before the base was opened. Lastly, the Icelandic volcano eruption took place on April 4<sup>th</sup> 2010 and the ash cloud halted the air traffic a few days later on April 15<sup>th</sup> (Ormsby, 2010).

#### **4.4 Qualitative Data Collection and Analysis**

The qualitative analysis takes the form of semi-structured in-depth interviews. As the case study is used to understand the issues related to the situation or get a better understanding of the thoughts behind the sustainability processes, the qualitative interviews prove appropriate (Blumberg, 2011, p.265).

A total number of five interviews were conducted over a period of three weeks, with each interview lasting approximately 60 minutes. In order to limit bias, the respondents are chosen from a wide variety of functional areas, groups and hierarchical levels (Eisenhardt & Graebner, 2007). The interviewees were contacted via e-mail and LinkedIn and received information limited

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<sup>9</sup> "During the spring and summer of 2001, U.S. intelligence agencies received a stream of warnings that al Qaeda planned, as one report put it, "something very, very, very big." Director of Central Intelligence George Tenet told us, "The system was blinking red"" (National Commission on Terrorist Attacks Upon the United States, 2004, p. 1).

to the resilience aspect of the analysis and no information regarding sustainability were disclosed in the e-mails and messages. Interviews with all respondents were conducted face-to-face in environments relatively free from distraction, while maintaining a comfortable atmosphere. The interviews follows the requirements of in-depth semi-structured nature, as this allows for a more thorough investigations in the issues related to the situation (Blumberg et al., 2011). To ensure that the same topics are being discussed with the two airlines, an interview guide is used. This consists of a list of topics and some specific questions to be addressed, while allowing for a free flow of follow-up questions and reasoning (Blumberg et al., 2011). More information about the interviewees can be found in Appendix 1.1.

During the interview, a diagram is presented (Appendix 1.2) in an attempt to visualize and evoke the perceived motivations and influences that directly affect the airline's resilience. The interactive discussion tool was used in a similar case study investigating influences affecting environmental performance for SAS (Lynes & Andrachuk, 2008). The tool can be a valuable alternative to probing techniques used to get respondents to elaborate more on questions addressed (Blumberg, 2011, p. 499). Using a visualizing tool allows the respondents to develop responses in their own way (Lynes, 2003, p. 11). Feedback from the respondents in the case study by Lynes and Andrachuk (2008) indicated that the tool was helpful, well organized and offered them valuable insight to consider in the future (Lynes, 2003). Although the tool builds upon sustainability, several changes have been done in order to amend it to the topic of investigation. Visual improvements suggested by Lynes (2003) were also implemented.

The analysis of the qualitative data builds largely on Grounded Theory processes developed by Glaser and Strauss (1967), with a few adjustments suggested by Charmaz (2014). Grounded Theory is developed inductively from the data itself, through a process of constant comparison analysis (Charmaz, 2006). Glaser and Strauss (1967) believe that theories developed from inductive analysis, i.e. grounded in theory, yields success more than theories deductively analyzed from a priori assumptions (p.6).

The coding contained four major steps; initial coding, focused coding, axial coding and theoretical coding. As suggested by Gibbs (2008) the research process started with *“a partial framework of “local” concepts, designating a few principal or gross features of the structure and processes in the situation that he will study”* (p.34), namely the conceptual model on p. 16. The next step consisted of the initial coding and was conducted using line-by-line analysis. Line-by-line coding is particularly useful with fundamental empirical problems (Charmaz, 2014) and fits well with the topic of survival in the turbulent airline industry. By engaging in line-by-line coding, the researcher is able to remain

close to the data and identify explicit statements or concerns (Charmaz, 2014). The second step of the coding process involved focused coding and is useful for determining the validity of the initial codes (Charmaz, 2014). Axial coding is the process of tying the distinctive codes back together. Corbin and Strauss (2008) suggested to group the concepts into three categories: 1) conditions, 2) actions 3) consequences, and a fourth one was added for the purpose of this study 4) perceptions. The latter was created as a category for thoughts about Black Swans, which cannot be grasped as a condition, action, or consequence as they are impossible to predict (Taleb, 2010). Theoretical coding was the final stage of the coding process, where the relationships between the focused codes and the axial codes were analyzed in order to develop hypotheses into theories (Charmaz, 2006). The coding process was completed using the qualitative analysis tool MAXQDA, which allows easy maneuvering through large quantities of raw data and developed codes.

Three weeks before the start of the initial coding, a preliminary inductive coding was conducted on the full length of one interview. The same interview was re-coded in the initial coding stage and the emerging codes were compared. This was done in order to assess the validity of the initial codes, given the study is limited to one principal investigator (PI). Furthermore, to ensure the validity of the codes, an excerpt of the interviews were handed to a second coder together with a list of developed codes. A second coder was included in order to calculate intercoder reliability as suggested by Campbell, Quincy, Osseman, and Pedersen (2013). Intercoder reliability refers to *“two or more equally capable coders operating in isolation from each other select the same code for the same unit of text”* (Campbell et al., 2013, p. 297). Due to the nature of a master’s thesis, finding another equally capable coder for the given topic is challenging. However, the selected coder has experience in coding, in addition to being well informed about the airline industry and its challenges.

## 5 RESULTS

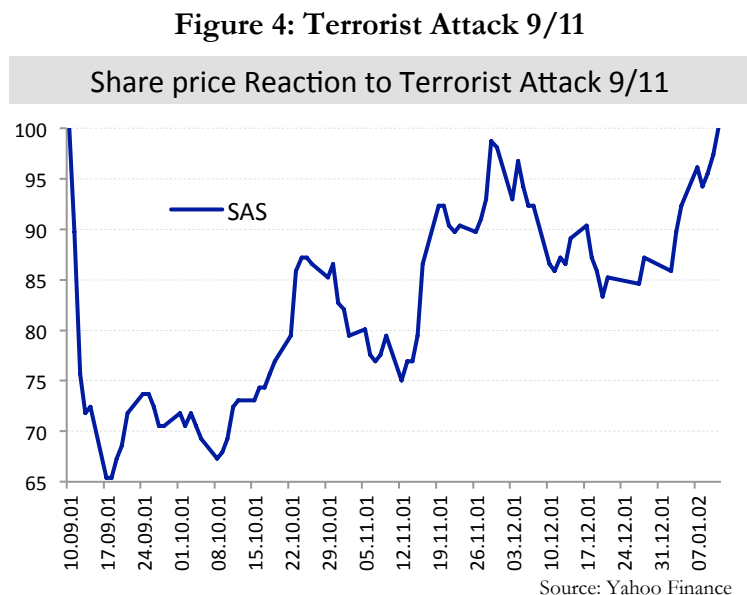
The analysis of the qualitative and quantitative data provided some insightful findings and results. The following sections displays the findings derived from the qualitative and quantitative analyses. The results will be interpreted further in the discussion section following the results.

### 5.1 Quantitative Results

The following analysis is of SAS' and Norwegian's share price reaction to four different shocks, in order to find indicators for resilience. Norwegian remained a private company until December 2003 and is therefore excluded from the analysis of the first shock.

The devastating event of the terrorist attacks when two airplanes crashed into the World Trade Centers in New York City on September 11<sup>th</sup>, 2001 caused the world-wide demand for air transportation to collapse (Franke & John, 2011a).

Figure 4 represents the share price of Scandinavian Airlines indexed at 10<sup>th</sup> of September 2001. The share price experienced a severe drop following the terrorist attack, however recovery was on the horizon already toward the end of September. The second drop occurred due to the Linate Airport Accident on the 8<sup>th</sup> of October 2001, where one of SAS' flights

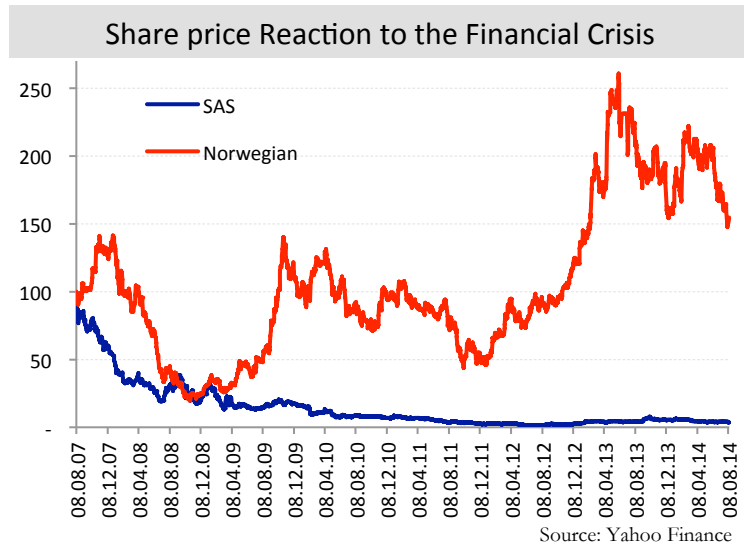


were involved in a crash resulting in the death of 114 people (Agenzia Nazionale per la Sicurezza del Volo, 2004, p. vii). Overall recovery was less than four months later, in January 2002, indicating that SAS was in fact affected, but resilient in terms of reaching pre-shock level shortly after.

The second shock under investigation is the collapse of Lehman Brothers and the Financial Crisis in 2008. The crisis was said to have a greater effect on the airline industry than analytics had anticipated (Franke & John, 2011a).

The data is analyzed from the date of the first clear signal of the credit crunch in 2007. It is evident that SAS and Norwegian's share price reaction to the financial crash has been relatively disconnected, with the exception of the period May 2007-2009. While SAS never recovered to their pre-shock level, Norwegian recovered on the 8<sup>th</sup> October 2009.

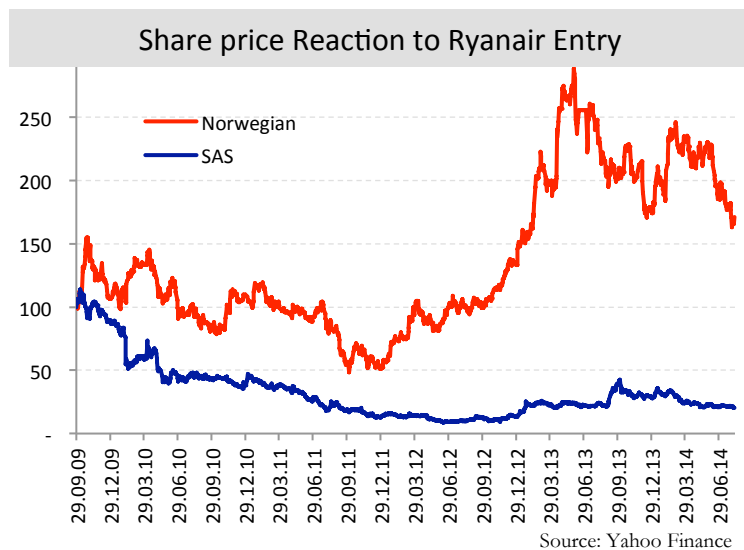
**Figure 5: Financial Crisis**



Following the financial crisis, the competitive market tightened. The low-cost carrier Ryanair opened a base at Moss Rygge Airport in 2009 (Center for Aviation, 2009).

SAS' share price continued to decrease and at the time of writing never recovered. Norwegian however, experienced a minor dip the following six months, but recovered on the 26<sup>th</sup> of March 2012. Ryanair is a direct competitor to Norwegian as they are both classified as LCCs. However, lately Norwegian has attempted to move towards increased quality and comfort (Norwegian Air Shuttle ASA, 2010).

**Figure 6: Ryanair Entry**



The fourth and last shock that has been analyzed is the Eyjafjallajökull volcano eruption (Figure 7) in April 2010 (NASA Earth Observatory, 2010). The eruption resulted in a major ash cloud and consequently all air traffic in Europe was halted (Owen, 2010).

As seen from Figure 7, both SAS and Norwegian experienced a drop in their respective share prices. SAS started out with a minor increase at first, but later dropped to a greater extent than Norwegian. Norwegian's share price recovered on the 2<sup>nd</sup> of January 2013.

The results from the initial analysis show that Norwegian on average recovers after 18 months, whilst SAS is yet to reach recovery. Norwegian’s tendency to recover faster than SAS can be an indicator that Norwegian is the more resilient airline of the two.

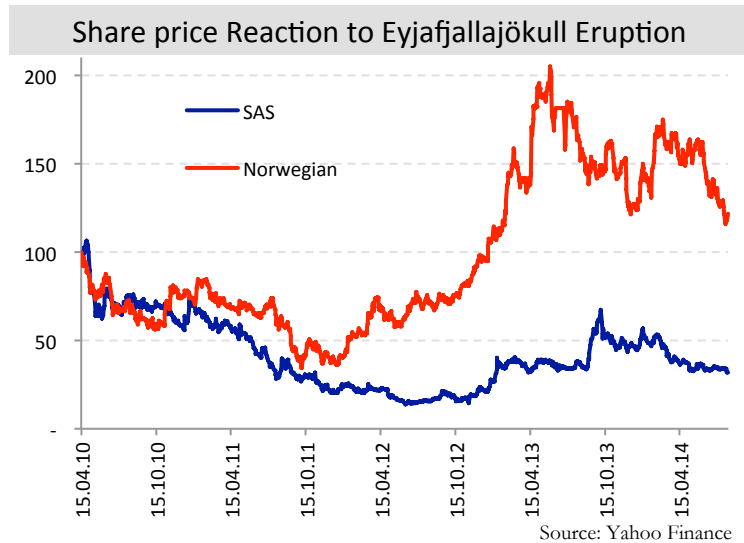
**Sustainability Performance**

Through the analysis of SAS’ Sustainability Reports and Norwegian’s Environment and Corporate Governance section of the annual report, data on sustainability is collected. The first data collection refers to the airlines’ environmental performance, which can be measured using several different metrics. Grams of CO<sub>2</sub> emission per revenue passenger kilometer (RPK)<sup>10</sup>, is the selected measure for this study, as this is one of the most commonly used metrics for measuring eco-efficiency (Gössling & Upham, 2009). This metric is applied by both SAS’ and Norwegian’s annual reports.

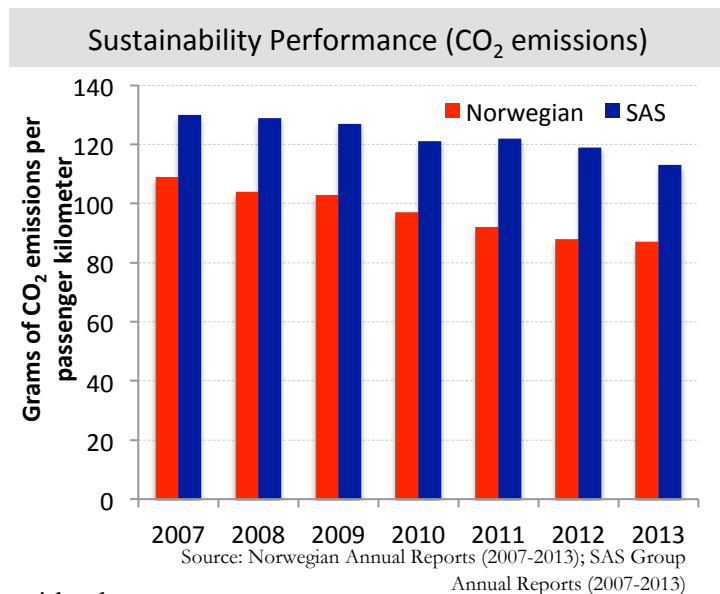
Due to the lack of published environmental performance indicators by Norwegian prior to 2007, the data is collected from the period from 2007-2013 for both airlines to ensure better comparison. The environmental performance is depicted in Figure 8.

As seen from the figure, SAS has a higher CO<sub>2</sub> emission throughout the period, although generally decreasing, with the exception of 2011. Over the period of 2007-2011, SAS decreased its CO<sub>2</sub> emission per RPK by 13%. Norwegian’s CO<sub>2</sub> emission per RPK decreased by 20%, indicating that Norwegian had a better sustainability performance and improvement, given the chosen period.

**Figure 7: Eyjafjallajökull**



**Figure 8: Sustainability Performance**



<sup>10</sup> RPK is a commonly used term for measuring passenger volume transported by airlines. The RPK is derived by multiplying the total number of passengers (excl. cabin crew and infants without their own seat) by the distance flown (Gössling & Upham, 2009; Norwegian Air Shuttle ASA, 2002-2013).

Furthermore, social sustainability was analyzed in SAS' Sustainability Reports and in the Corporate Governance section of Norwegian's annual reports for the same period and distinguishes between internal and external social sustainability. While SAS' extensive sustainability report covers a wide range of metrics for both, Norwegian's annual report is limited to qualitative data, with the exception of absenteeism. Male to female ratio is reported up until 2011. The results show an increase in absenteeism of 1,6% and 1,7% for SAS and Norwegian respectively. External social responsibility is limited to qualitative description, hence only suitable for binary analysis. While Norwegian's engagement in external social responsibility is limited to Unicef, SAS has a history of humanitarian incentives including "Christmas flight", Save the Children, Children for Cancer and ambulance assistance (SAS Group, 2013). Due to the absence of quantitative measures, these incentives prove difficult to incorporate in the analysis.

## 5.2 Qualitative Results

The inductive coding revealed several common descriptions about the Norwegian airline industry. Respondents from SAS and Norwegian characterized the industry condition as highly competitive, sensitive to externalities, capital intensive, low margins, and suffering from overcapacity. This combination of factors results in the Norwegian airline industry being classified as an "extreme industry" by one of the respondents and according to Snorre Andresen (SAS), the industry has suffered through an ongoing crisis for the past ten years.

The intercoder reliability result equaled 67%. Although this is not very high, it is expected due to the inductive coding- and grounded theory approach. A much higher intercoder reliability would have been expected in situations using pre-defined codes (Campbell et al., 2013). A list of the codes developed can be found in Appendix 1.3. The results of the axial coding showed overlapping themes in several of the codes. These were investigated further and the results were six overarching theoretical codes.

### Market Monitoring

It was found that both airlines monitor the macro-environment in an attempt to predict the short-term future of the industry. On October 29<sup>th</sup> 2008, Denmark's second-largest airline in terms of tangible assets, Sterling Airlines, filed for bankruptcy (Brogger, 2008). Prior to the bankruptcy, speculations occurred and Norwegian decided to keep their options flexible and open. *"We paid attention and had some plans ready in case there should be any changes in the market"* (Julius Støback, Norwegian). Norwegian announced an opening of a new base at Copenhagen Kastrup only 14 hours after the news became public, and in less than 24 hours Norwegian's first advertisement in Denmark went live. The interview subject of this study was temporarily assigned as the Acting

Country Manager of Denmark during his first week, indicating that Norwegian quickly identified the opportunity and invested thereafter.

For SAS, the story draws similar findings. After the bankruptcy of Sterling, SAS quickly offered free transportation within Scandinavia to all of Sterling's stranded passengers (Brogger, 2008). The free transportation helped SAS increase their load factor and subsequently resulted in SAS being the top-performing airline that day (Brogger, 2008). According to the SAS interviewee, *"We do quite a lot of analysis about macroeconomic conditions"* (Snorre Andresen, SAS). The main difference seems to lie in the level of investments in responses to disruptions. SAS' strategy required limited investments, as they offered free transport via existing routes. It seems to be that when it comes to the more predictable events, both airlines carefully monitor the situations and have plans of how to either solve, or take advantage of the situation. When it comes to the totally unpredictable events, neither of the airlines had preparedness beyond legal requirements.

### **Cost Control**

Costs were a reoccurring theme and clear priority of both airlines. Given the natural difference in business models as well as difference in their respective life cycles their strategies differ accordingly. For SAS, cost cuts have been top priority for several years according to Snorre Andresen (SAS) *"Cost cutting has become part of our DNA"*. In the past, SAS owned most parts of their value chain but over years of slow growth and diminishing returns, the airline has sold and outsourced operations and returned to the core activities. As described by Snorre Andresen when SAS' ambitious strategies failed, the company had to turn to severe cost cutting strategies and executives are now attempting to *"clean up the mess"*. SAS' famously aggressive cost cutting strategies are being noticed by executives of other airlines *"They say: You are way ahead of us on cost-cuts"* (Snorre Andresen, SAS). However, due to the capital intensity and low margins, cash reserves are impossible to maintain in the airline industry.

Norwegian is currently experiencing an enormous promising growth and consequently has different cost challenges. Rather than cutting the existing cost, one of their challenges is to *"avoid increasing our overheads at the same pace as our production"* (Julius Støback, Norwegian). Centralization is one way in which Norwegian limits these additional costs. *"We (started to) organize ourselves in a way where we have a few central rather than local resources, to avoid overlapping"* (Julius Støback, Norwegian). Furthermore, Norwegian takes advantage of the two competing aircraft producers, Airbus and Boeing, by putting them up against each other, they are able to negotiate better prices.

## Investments

Investment strategies are a clear differentiating factor between the two airlines. In the turbulent time following the financial crisis, most companies' investments experienced a sudden stop due to falling demand and capital surge.

Norwegian's reputation for being untraditional and opportunity grabbing is well known. Norwegian has a very aggressive investment strategy towards fleet orders. In 2012 they placed the largest fleet order in European aviation history of 122 Boeing aircraft and 100 from Airbus (Norwegian, 2014). Norwegian gives a clear signal that they are here to take advantage of whatever market opportunity they can. Having uncalled options on aircraft *"allows for flexibility in that we can accelerate growth simply by calling on our options"* (Kjos, 2009, p.2).

SAS has a slightly different take on investments. Due to the low margins, most investments are more short-term, although with a long-term perspective. According to Snorre Andresen (SAS) *"you have to develop a strategy that you are confident maximizes return on investment on the investments you perform"*. After the turbulent affairs following the credit crunch, SAS announced that their renewed strategic approach in 2008, Core SAS, with its focus on core business strengths. A more recent part of this change has been seen in the careful selection of target segment, which *"is a strategy with a long-term perspective that does not demand too big investments"* (Snorre Andresen, SAS).

## Product and Differentiation

SAS' product strategy is to focus solely on meeting the needs of one target segment. The target segment of SAS is "frequent travelers" and is characterized as making more than five return flights per year, value time, efficiency, well-educated and interested in media and technology (SAS Group, 2014 p. 1). *"When we defined our target segment, we conducted several surveys to know what the target segment want, and invest thereafter"* (Snorre Andresen, SAS). Investments include any innovations that will simplify and make the travel time comfortable and reliable for the passengers. This includes a strong focus on Fast Tracks, Lounges and automated processes through computer-assisted bag drop and mobile apps.

Norwegian's focus on its product relies heavily on the building of a strong brand that gives people associations of not only low price, but also high quality. It is important to build a brand that *"is strong enough to take some beating"* (Julius Støback, Norwegian) in turbulent markets. This is achieved by having a strong focus on return on investment for marketing expenditure. As pointed out by Julius Støback, Norwegian has a lower share of voice in all markets they are present in, yet a stronger ad-recall than its competitors. Furthermore, Norwegian's increase in number of

nationalities among employees poses the challenge to ensure the service offering remains unified across all markets. *“We are actively working with internal branding, educating people regarding the product and teaching them how to be a good ambassador for the brand”* (Julius Støback, Norwegian).

### **Risk**

A common way airlines limit risk is through fuel hedging, which European airlines are notorious for in comparison to U.S carriers (Wall, 2014). This is essentially great in times of rising fuel prices, but the downside is naturally their inability to reap benefits from decreasing fuel prices. Hedging gives an indicator for risk aversion among competitors. For instance, Ryanair hedges about 90% of their fuel consumption, allowing them certainty in how they should run their business (Gordon & Wild, 2014). In the Norwegian airline market, SAS hedges typically between 40-80% of their fuel, which is subsequently more than Norwegian (SAS Group, 2014). As Julius Støback (Norwegian) stated *“we hedge less than our competitors, basically because we do not believe that we are better than everyone else at predicting the oil prices”*. This is indicating that perhaps Norwegian is more risk loving than SAS. When airlines hedge at different levels, competitors will also be affected differently by changes in the oil prices.

### **Strategy**

Perhaps the main differentiator discovered in the interviews was the process of strategy development. According to SAS, airlines should *“develop something unique by establishing a target group, accommodate to their needs, develop a strategy of how you do so, adjust the business size and investment, and ‘stick to the plan”* (Snorre Andresen, SAS). It was also said that if you develop a business strategy, you often also create a picture of the future, much like previous SAS CEO Jan Carlzon (1981-1993) did. He came in with very ambitious goals and a view that consolidations would result in *“one of five in -95”* (referring to the number of airlines left in the market in 1995) and *“if your prognoses are wrong, you might make catastrophic decisions”* (Snorre Andresen, SAS).

This latter thought is in line with the findings from the interviews with Norwegian, *“I wouldn’t say that it was so much long-term planning. I’d rather say we go full speed ahead and see how far it gets us”* (Julius Støback, Norwegian). According to Norwegian, *“it is very easy to open up a new route within perhaps 48 hours at airports where we are already present. We can already start flying after one week”* (Julius Støback, Norwegian). Furthermore, the aircraft can be moved to a different base shortly after in the event of the route not being as successful as forecasted. Changing routes and destinations is rather easy in the airline industry but the downsides are that *“many might really appreciate the new routes, and become irritated when these routes are discontinued”* (Julius Støback, Norwegian). Lene Granberg, a close habitant to a regional airport supported this view. She was displeased that Norwegian, as the only

airline offering domestic flights from there, discontinued their services. Additionally, a cabin crew of Norwegian initially applied at the regional airport in order to have base close to her home, *“I only got to work there for two months. I then had the option to join them in Oslo or quit”* (Hege Amundsen, Norwegian Cabin Crew). This sort of trial-and-error strategy development characterizes Norwegian as an airline where *“new thinking is very central. Fresh Air Thinking is in a way Norwegian’s brand- or product idea. It has been like this since day one, but we now have a word for it. The core is all about new thinking”* (Julius Støback, Norwegian).

### **Summary**

Through this section of the paper, the findings from the quantitative data collection and qualitative interviews have been highlighted. The quantitative data shows that Norwegian has a stronger ability to re-bounce to its pre-disruption share price, indicating that Norwegian is the more resilient of the two airlines. Although there are several common characteristics and approaches covered in the interviews, there are also vast differences. The main differentiator among the airlines is largely based upon investments and strategy development. Furthermore, the immediate reactions to disruption seem to be through cost control for SAS, while Norwegian aims at other forms of flexibility. This occurs to have certain linkages with Norwegian’s less risk-averse philosophy. In the following section, a detailed discussion of the findings is developed.

## 6 DISCUSSION

The results of the study revealed several interesting topics and potential antecedents for resilience in the airline industry. As indicated, both by the quantitative results as well as qualitative results, Norwegian appears to be the more resilient of the two airlines. In this section the study will draw together the evidence found in the qualitative and quantitative research and attempt to build theory from the findings. The discussion starts with the findings from the specific shocks mentioned in the methodology.

### 6.1 Environment

According to the interviews, both SAS and Norwegian carefully monitor the external environment in an attempt to prepare themselves for approaching disruptions or opportunities. De Geus (2002) claim that companies with a certain level of sensitivity to the environment are more likely to survive in the long run. One of the conditions mentioned explicitly is a company's timely reaction to changes in the surrounding society. Seen from the results, rapid reaction to market changes was exercised by both SAS and Norwegian, although in slightly different matters according to the interviews and annual report analysis. SAS' reaction to Sterling's bankruptcy is largely based on strategies without large investments and the result was that SAS became the best performing airline that day, however the long-term effects from such strategies seem to be limited. Norwegian's response was to open base at Kastrup in Copenhagen, employ a country manager and invest in advertising strategies all in a very short span of time. According to Norwegian's performance in the last few years, one might claim that their response reap larger long-term benefits.

Similar findings were discovered in relation to the different shocks. For instance, before 2000, SAS had a growth strategy of 10% annually and invested in 12 new aircraft in 2000. As the economical troubles arose that year, combined with the occurrence of 9/11, it seems that SAS quickly went from an offensive tactic to a defensive tactic. SAS reacted by removing 12 aircraft to adjust to demand. Likewise during the financial crisis, SAS implemented "Strategy 2011" which aimed at further cost reductions and optimizations. Furthermore, SAS sold a number of subsidiaries, such as airBaltic, aeBal as well as several daughter companies including SAS Flight Academy. According to Snorre Andresen "*Cost cuts are now part of our DNA*", and this clearly lies in SAS strategy for the past 10 years with ongoing crisis and struggles to reap desired benefits. Only in 2010, SAS seemed to move towards more investments and growth. "*After having greatly reduced capacity through the first six months of 2010, the Group is redirecting its focus to open new profitable routes and grow.*" (SAS Group, 2010, p. 6). This was done by increasing the number of long-haul flights by

one in addition to increasing frequency on certain routes. SAS' revenue experienced an increase of 0.8% in 2011, while passenger growth increased drastically by 6.2% (SAS Group, 2011, p.2).

Norwegian's strategy in the years before the financial crisis was characterized by aggressive expansion. As stated in the annual report, "*we are certain that the expansion is necessary to increase the value and profitability on a longer term*" (Norwegian, 2006, p.4). Norwegian placed the largest order in Scandinavian history, of 42 Boeing 737-800 HGWs in 2007. "*Norwegian does not believe it to be economically viable to operate aircraft with the fuel consumption of the MD-80 given the development of the fuel price*" (Norwegian, 2007, p. 4) indicating a clear sensitivity to the external environment. Furthermore, the investment provided Norwegian with increased flexibility, as the wait for new aircraft are minimum 6 years and Norwegian therefore are secured deliveries and can act quickly to arising opportunities (Norwegian, 2007, p. 4). During 2010, the year of Eyjafjallajökull eruption, Norwegian was again investing heavily, by opening 56 new routes (Norwegian Air Shuttle ASA, 2010), giving further support that Norwegian often respond, or at least does not stop the investments in times of shocks.

By comparing these findings to the airline's resilience, a potential link is revealed. As it became evident that neither of the airlines have contingency plans for the completely unexpected events, fast reaction and flexibility becomes vital. They both monitor the environment and consequently react quickly, however the way, in which they react seem to be the main differentiator. Norwegian maintains capacity surplus through investments in order to take advantage of arising opportunities. SAS' response to the four shocks has mainly consisted of cost and capacity reduction and failed to yield resilience.

Through these results, it seems that sensitivity to the environment only contributes to resilience through the types of investments conducted. Furthermore, cost-cutting strategies such as staff reductions, are not contributing to general good and therefore considered socially unsustainable. The following proposition has therefore been developed:

*P1: Firms that are sensitive to the environment and respond to changes through sustainable investment strategies become more resilient.*

## **6.2 Stakeholders**

Throughout the interviews with the representatives from two stakeholder groups, several topics related to sustainability arose. While interviewing a close neighbor to Moss Rygge Airport it became apparent that the local inhabitants do not hesitate to speak up in case of unrighteousness. The interviewee expressed great disagreement with the scheduled establishment of the

commercial airport at Rygge. *"We wrote letters and went to the city council in order to stop it... I also promised myself to never fly from there!"* (Lene Granberg, Habitant – Rygge). Likewise, this was essentially the case for the main Oslo Gardermoen Airport when the building plans were announced. The main reason for opposing the establishment was according to the interviewee the noise from the airplanes. Moss Rygge Airport was at the time a military airport, but the inhabitant feared increased traffic and accumulated noise levels with the commercial airport. Perhaps one of the more interesting findings was the interviewee changed her mind shortly after the opening of the airport. *"We figured out that it wasn't that loud after all. And they don't fly at night, so it's not too bad. The F16 (military) airplanes were a lot worse"* (Lene Granberg, Habitant – Rygge). She also shortly retracted her promise and became a regular at the local airport. The noise issue also came up in the interview with the cabin crew interviewee. She claimed that the old aircraft (Boeing 737-300) were noisy to the extent that she considered wearing earplugs. According to her, the newer aircraft are not only environmentally friendly, but also less noisy and the extra space generally provides a better working environment.

According to these findings, investments in newer and increasingly environmentally friendly aircraft could bring benefits not only to the external environment, but also to a wider range of stakeholders. Although the opposing arguments were not strong enough to stop the establishment at Moss Rygge Airport, one should not undermine the power of stakeholders and especially the people who are directly affected by the decisions. In the event of the aircraft flying from Moss Rygge consist of an older production, hence noisier, boycotts from the local community is a factor worth considering.

The turbulent global economy coupled with price sensitive consumers potentially gave rise to the low-cost carrier business model. According to the representative for the local community, many people in the area were now able to travel more frequently. She had witnessed new private housing projects in the past couple of years. *"Perhaps more people want to live a little closer to the airport now"* (Lene Granberg, Habitant – Rygge). Although the airport failed to attract new businesses and economic growth to Rygge, the airlines themselves offer an increase in the number of jobs in the region. For the cabin crew representative, the new airport was the reason why she applied for the position.

How the airlines chose to deal with shocks in relation to its stakeholders is another topic that arose during the interviews. According to the Norwegian cabin crew representative, none of the shocks had affected her directly. In fact she claimed, *"I didn't notice anything"* (Hege Amundsen,

Norwegian). The interviewee expressed great satisfaction and confidence in the job and her future.

During the difficult economic times and dropping demand, SAS' cost cutting strategies resulted in downsizing of human capital. Following the rollout of the new and enhanced strategy, Core SAS, 4,000 employees were let go and salaries and bonus agreement were negotiated with the remaining employees (SAS Group, 2010). Talking to the representative for SAS, his current responsibility was downsizing three departments at the head quarters and decrease staff by 30% (Snorre Andresen, SAS). He claimed, "*survival is about working with the tough things, the devastating things*" (Snorre Andresen, SAS). This strategy seriously affected employee motivation and caused many internal conflicts putting additional pressure on the airline. The finding is also supported by Doe (1994), who claims that many executives fail at noticing the effect of downsizing on the remaining employees.

It becomes apparent that in order to be resilient, airlines should not undermine the wider range of stakeholders affected. Investments in fleet renewal for instance, was claimed to provide the cabin crew with an enhanced working environment in terms of space, comfort and noise reduction. During the Eyjafjallajökull eruption, Norwegian had no formalized structure for crisis management. According to the Norwegian interviewee "*we relied on commitment and extra hard work from everyone. We have a culture where everyone feels motivated to get us through any crisis*" (Julius Støback, Norwegian). According to these findings, investing in sustainability according to stakeholder needs can help companies through crisis due to company culture and motivation. This may very well be the case for external stakeholders, as if they see the true benefit of the sustainability initiatives, their incentive to interfere or boycott might be less. The following propositions should be tested further:

*P2a: Investing in sustainability initiatives that supports the need of internal stakeholders can lead to resilience through enhanced motivation.*

*P2b: Investing in sustainability initiatives that supports the need of external stakeholders can lead to resilience through enhanced support and decreased opposition.*

### **6.3 Innovation**

The airline industry is regarded as a service industry and the relative linkages between sustainable innovations and resilience prove difficult to uncover. With the exception of a few technological automatizing innovations, the airlines are more readily open to service- and process innovations. Several findings from the product differentiation and strategy codes are relevant to this potential

linkage. The first identified link was the process optimization innovations introduced by both airlines. Throughout the interviews, it became apparent that SAS and Norwegian aim at developing technologies that contribute to optimize all processes associated with travel. SAS introduced Fast Track and Self Check-in early on. Furthermore, both SAS and Norwegian have developed their own travel apps, limiting the need for printed boarding passes and making travel easier for the passengers. These innovations can potentially contribute to less input and waste (such as the boarding passes) and might consequently be considered as sustainable. However, as explained by Julius Støback (Norwegian), these innovations create win-win solutions for passengers and the airline, as passengers get a simplified travel journey, while the airline benefits through staff reduction and process optimization. These innovations therefore characterize performance-improving innovations, which according to Christensen and van Bever (2014) are unable to reap the true benefits created by market-creating innovations.

The second link is the larger investment in new technology, such as the purchase of aircraft. The new aircraft typically have a emission reduction of 30-35% in CO<sub>2</sub> and NO<sub>x</sub>, and is regarded as a great sustainability investment according to Norwegian Air Shuttle ASA (2002-2013). On the discussion about fuel prices, SAS and Norwegian expressed opposing views. According to SAS, fleet renewal had nothing to do with the rising fuel prices, as the cost-savings on fuel would not be covered by the added costs associated with leasing or purchasing new aircraft (Snorre Andresen, SAS). According to Norwegian, the purchase of new flights mostly had to do with fuel prices (Julius Støback, Norwegian). By investing in more fuel-efficient aircraft, Norwegian claims to be able to save costs on fuel and be better prepared in times of higher fuel prices. The latter refers to resource dependency, which is an important part of both sustainability and resiliency as large proportion of an airline's costs consists of fuel expenditures. As a non-renewable energy source, fossil fuels might become depleted at some time in the future. Although the probability that this will happen in our lifetime is very low, the probability that the supply levels will become scarcer and consequently increasing oil prices is more likely. By investing in alternative fuels, or in this case technology limiting an airlines dependency on such resources, the airlines are making their value chains more resilient to such disruptions. Assuming a linear learning curve about these innovations, Norwegian might simultaneously build stronger first-mover advantages and have a higher chance at reaping benefits in the future. The following proposition has been developed to explore this relationship:

*P3: Investments in sustainable resources can increase resilience in companies' supply chains.*

## 6.4 Cost

As uncovered in the results, the airline industry is extremely competitive, capital intensive and sensitive to the macro environment. The fact that the industry requires great amounts of cash and simultaneously has a high sensitivity towards macro fluctuations makes the topic of resilience particularly important. In the literature review, the link between sustainability, cost and resilience was explored thoroughly, indicating that sustainability investments can make companies resilient through lowered costs.

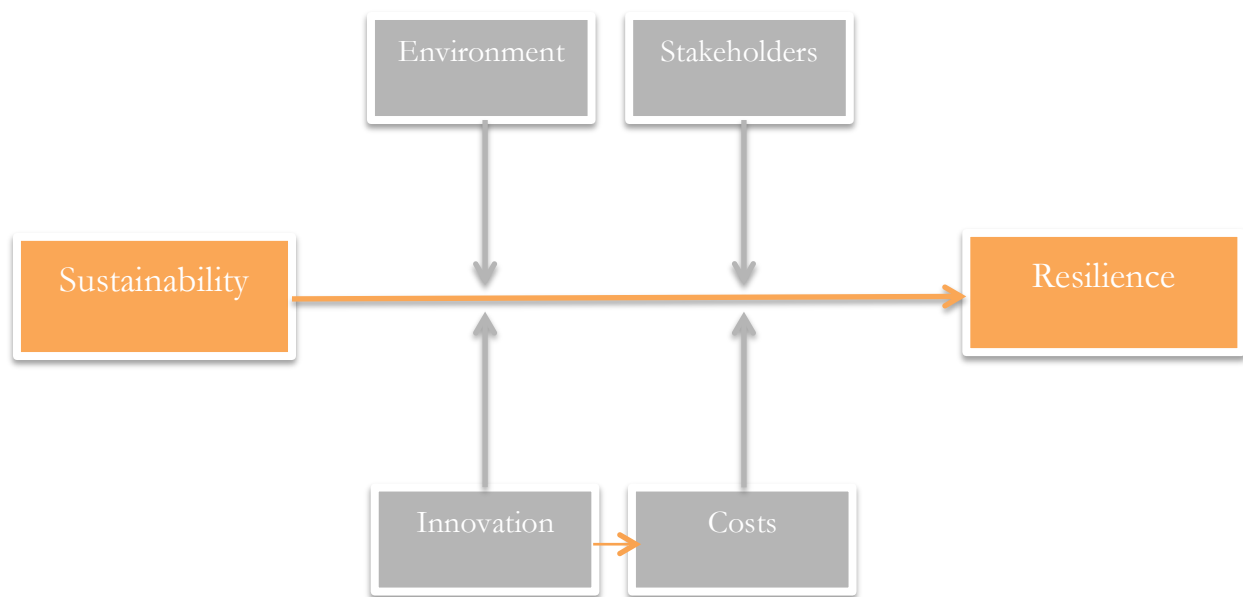
The analysis uncovered that certain sustainability investments yield cost reductions for the airlines. For instance, Norwegian's heavy investments in more sustainable aircraft are justified by the increased fuel-efficiency. According to Snorre Andresen (SAS), investing in new aircraft is always an unprofitable investment, as it incurs greater costs. However, due to the fluctuating fuel prices, Norwegian's investments can potentially offer cost reductions. Julius Støback (Norwegian) claims that by putting two producers (Boeing and Airbus) against each other, sufficient price reductions can be obtained in order to make the investment worthwhile.

The interviews revealed that maintaining cash piles in the airline industry is rarely possible due to the extreme competition and low margins. De Geus (2002) claims that having a conservative view on cash, i.e. maintain certain cash reserves, allow companies the flexibility necessary to fight off potential disruptions or invest in arising opportunities. Supporting this view, Taleb (2010) suggests companies should learn to love abundance in order to secure themselves against Black Swans. According to Julius Støback (Norwegian), Norwegian are extremely well prepared for positive Black Swans, due to their surplus in capacity and ability to open up new routes within very short time frames. In the case of such arising opportunities, competitors consequently have to wait approximately 6 years between placing an order on aircraft and the subsequent delivery date. The following proposition should therefore be tested further:

*P4: A firm reducing costs through sustainable investments becomes more resilient.*

## 6.5 Conceptual Model

To finalize this study's findings, a conceptual model is developed and presented in Figure 9. The study found the environment, stakeholders, innovations and costs to have a direct moderating effect in the relationship between sustainability and resilience. Furthermore, a link between innovation and cost is identified, as the airlines' investment in innovation subsequently affects costs. Further research is needed in order to determine the extent to which these relationships exist. This may be done with a quantitative approach as well as replication logic for multiple case studies.

**Figure 9: Conceptual Model**

## 7 LIMITATIONS

A possible limitation to this study is naturally the difference in SAS and Norwegian's business models. It may be argued that during financial turbulence, low-cost alternatives become more in demand, hence SAS might have had a competitive disadvantage to Norwegian. By incorporating four different shocks, in which only one is financially related, the study attempt to limit such outcomes. Furthermore, Ryanair is a direct competitor of Norwegian, more so than SAS, as Snorre Andresen mentioned in the interview *"Ryanair are not after our customers"* indicating that SAS' customers in most cases would not trade SAS for a low-cost alternative. This should, in theory, mean that the establishment of Ryanair's base at Moss Rygge (where only Norwegian, not SAS were already present) might have a greater competitive effect on Norwegian than on SAS.

The difference in the airlines respective life cycles is another possible limitation. Norwegian as a relatively young airline has experienced a tremendous growth over the last years, while SAS has reached characteristics associated with maturity and decline levels. This could be one of the explanations of Norwegians rapid expansions and investments. However, by incorporating the indexed share price in the analysis, we see that both airlines were affected by the shocks, however Norwegian seemed to reach pre-disruption levels earlier than SAS.

Another potential effect might be the influence of the Linate accident for SAS as well as their lawsuits incurring additional costs. The Q400 productivity problems however are comparable to the delivery delays of Norwegian's new aircraft and the technical problems of the Dreamliner, resulting in additional costs in association with customer compensation.

## **8 CONCLUSIONS**

The initial aim of this study was to develop a theory of the relationship between sustainability and resilience. The overall result of the study is the conceptual model depicted on page 43. The model shows that there are at least four ways sustainability can affect resilience. Firms' ability to react in a timely manner to external changes through investments in sustainable strategies can be more resilient (Proposition 1). By closely monitoring the external environment and market conditions, the airlines were able to react quickly to changes. The differentiator of the more resilient airline was its ability to react by investing in strategies that could reap long-term benefits. The less resilient airline's heavy focus on cost cutting and capacity reduction showed evidence of only providing short-term benefits and resilience to future shocks.

The study also shows that firms investing in sustainability needs of external and internal stakeholders can increase resilience (Proposition 2a and 2b). According to the study's results, the airlines that invest in sustainability initiatives affecting the stakeholders, alleviate certain negative results associated with dissatisfaction and indicate that satisfaction with sustainability initiatives limit external and internal conflict pressure. Furthermore, the results reveal that sustainability investments may lead to resilience in a firm's supply chain (Proposition 3). Investments in technology or processes that limit a company's dependence on nonrenewable resources can make the company resilient in times of increasing commodity prices or change in market structures. Additionally, such sustainability investments with a long-term perspective can provide first mover advantages to the respective firms.

Sustainability innovations were also found to reduce variable costs, benefit growth strategies and potentially making firms resilient (Proposition 4). The more resilient airline invests more in environmental friendly aircraft offering increased fuel-efficiency. As cash reserves are difficult to obtain due to high capital intensity and low margins in the airline industry, airlines need to find other ways of being flexible. Airlines are found to be capable at reducing variable costs through sustainability and allow for the necessary flexibility to take advantage of growth opportunities.

The presented model provides rudiments for a new theory of sustainability and resilience by explaining how the two might be linked in a setting characterized as highly volatile industry. Given that the study is valid, it can be supported by the data from other settings. Extending current research on the topic of sustainability and resilience could inform us more on the consequences of engaging in sustainability in an increasing turbulent external environment.

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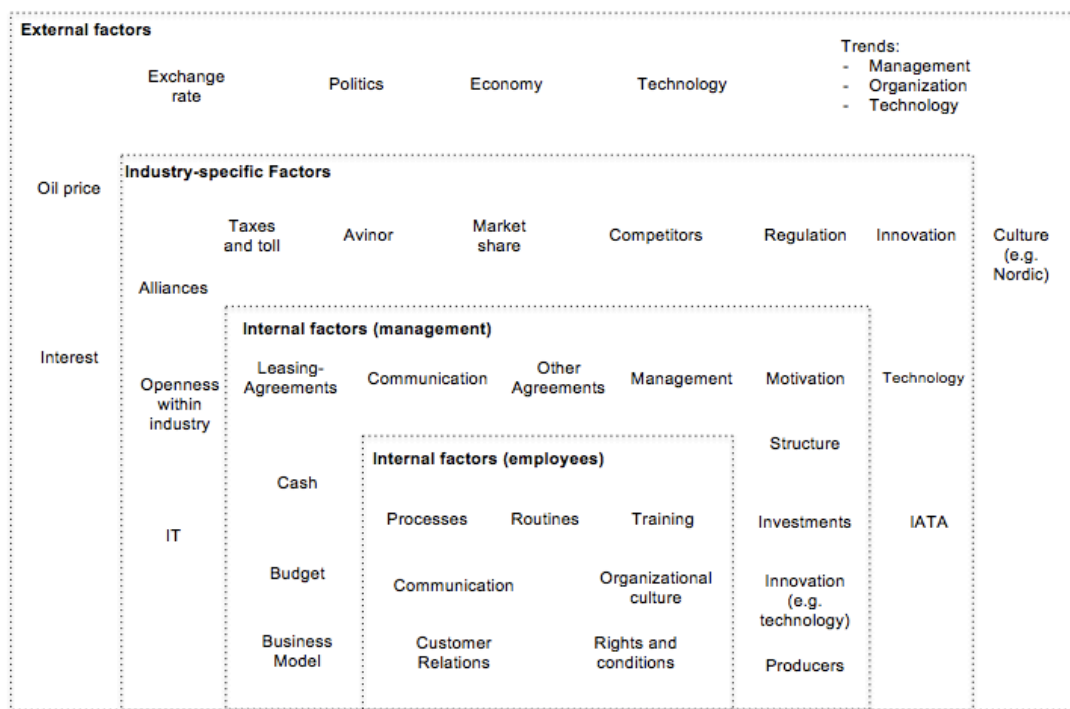
## APPENDIX

### 1.1 Interviewee Information

Interviewee	Title	Company	Tenure with airline/ surroundings	Date	Duration
<b>Snorre Andresen</b>	VP Customer Journey & Loyalty	SAS	28 years	31.10.14	00:48:54
<b>Snorre Andresen</b>	VP Customer Journey & Loyalty	SAS	28 years	14.11.14	00:59:29
<b>Julius Einan Støback</b>	Head of Consumer Insight	Norwegian	6 years	18.11.14	01:08:08
<b>Hege Amundsen</b>	Cabin Crew	Norwegian	4 years	14.11.14	00:58:25
<b>Lene Granberg</b>	Accountant	Eurosko	Close habitant to (now) Moss Rygge Airport for 15 years	18.11.14	00:44:52

### 1.2 Illustration for Interview

Illustration for Interview  
- Factors affecting an airline's reaction to "shocks"



Feel free to cross out, add, move, draw linkages and any other changes you feel are appropriate.

### 1.3 Inductively developed codes

Codes <sup>11</sup>		
Theoretical Codes	Definition <sup>12</sup>	Focused codes
Market Monitoring	<p>Market (noun) – <i>an area or arena in which commercial dealings are conducted (p.1075)</i></p> <p>Monitor (verb) – <i>observe and check the progress or quality of (something) over a period of time; keep under systematic review (p.1134)</i></p>	<ul style="list-style-type: none"> <li>• Monitoring</li> <li>• Market changes</li> <li>• Market developments</li> <li>• Competition</li> </ul>
Cost control	<p>Cost (noun) – <i>an amount that has to be paid or spent to buy or obtain something (p.391)</i></p> <p>Control (verb) – <i>determine the behavior or supervise the running of (p.377).</i></p>	<ul style="list-style-type: none"> <li>• Margin</li> <li>• Costs</li> <li>• Expenses</li> <li>• Budgeting</li> </ul>
Investments	<p>Investment (noun) – <i>the action or process of investing money for a profit (p.911)</i></p>	<ul style="list-style-type: none"> <li>• Long-term</li> <li>• Short-term</li> <li>• Investment opportunities</li> <li>• Return on investment (ROI)</li> </ul>
Product	<p>Product (noun) – <i>an article or substance that is manufactured or refined for sale (p.1404)</i></p>	<ul style="list-style-type: none"> <li>• Customers</li> <li>• Segmentation</li> <li>• Offer</li> <li>• Marketing</li> <li>• Loyalty</li> </ul>
Risk	<p>Risk (noun) – <i>the possibility that something unpleasant or unwelcome will happen (p.1521)</i></p>	<ul style="list-style-type: none"> <li>• Crisis management</li> <li>• Planning</li> <li>• Risk evaluation</li> <li>• Risk response</li> </ul>
Strategy	<p>Strategy (noun) – <i>a plan of action designed to achieve long-term or overall aim (p.1747)</i></p>	<ul style="list-style-type: none"> <li>• Strategic planning</li> <li>• “Stick to the plan”</li> <li>• “Fresh Air thinking”</li> <li>• Timing of investments</li> </ul>

<sup>11</sup> Theoretical and axial codes are backtranslated from Norwegian to English by two independent translators to ensure accurate translation.

<sup>12</sup> Definitions extracted from the following reference: Oxford dictionary of English, Ed. By Soanes, C. & Stevenson, A., (2003), 2nd ed, Oxford University Press.

**1.4 Transcript****Date:** Friday 14<sup>th</sup> November 2014**Interview subject:** Snorre Andresen**Time:** 9:30am**Title:** VP Customer Journey & Loyalty SAS**Place:** Grünerløkka, Oslo**Duration:** 00:59:29

This is the second interview session with Snorre Andresen, demographics were covered in the first meeting and are therefore not included here.

<b>Cathrine</b>	I would like to talk a little bit about when you first started working for SAS.
<b>Snorre</b>	Yes, 1986. That is a long time ago.
<b>Cathrine</b>	What do you remember about the changes that were made during those years?
<b>Snorre</b>	<p>What should I say, you become a little introvert and think of your own industry as something very unique, but it is an industry that has gone through some extreme changes. There are probably some other industries that have been through something similar, perhaps especially the maritime industry or the clothing industry. You shouldn't be so bigheaded about your own industry, but when I started it was "the happy days", even though profits were equally bad. What's interesting is that our industry never really delivered ROI. There has never been money returned to shareholders throughout the industry's 75 yearlong history. That is rather crazy actually. There are multiple reasons for this, but the main problem is the over capacity image killing the industry. There are constantly new players willing to (enter) because it is an exiting industry to invest in due to the large cash flows. The cash flow of a large airline is enormous. The daily cash flow might be something like 100 million kroner per day! This is probably why so many are willing to invest. But back to your question, it was like I said "the happy days". It was a heavily regulated market, close to no competitive chemicals. There were a few years where one could actually earn some good money, and this is partially due to the fact that one could, to a large extent, regulate the prices i.e. you could say what you wanted in profits, and then adjusts the prices accordingly. Therefore, cutting costs in the early days, at least for me (anno 1986), was not the main focus. On the other hand, the industry was perhaps even more sensitive to the macro-changes. The Kuwait crisis in -91 is one example. The oil price before then created extreme fluctuations, which none of the airlines were able to compensate through prices. I remember -91 were well, when the employee organizations made an agreement with the employer that they would give the employer one months salary for example. It was a complete crisis situation. Everything almost went overboard. There were in a way huge fluctuations at that time, but it was fluctuations in the macro-environment. Today, the competition is the main element, and then these other crises are added. You mentioned the ash cloud, 9/11, Lehman Brothers they too also occur, and probably with equally great impact, but the competitive picture</p>

	is so much larger. The other crises that could overtake companies before, as now becoming something we deal with more easily.
<b>Cathrine</b>	Are there any specific things that were done during this time up until 2000s?
<b>Snorre</b>	<p>Let me take SAS as an example. My reflection is that SAS during the 80s, early 80s – late 70s etc.... you move through stages, and during the early 80s there were a lot of strikes, negativity, poor customer satisfaction. Then Jan Carlzon arrived and brought a new mindset to the company. It was very good, he focused on customer relationships and created a lot of great things through that. What he did wrong, in retrospective as the history tellers are always right, he was extremely ambitious. He made a lot of investments abroad. He acquired Spanair, Estonian Air, Midland (British Midland Airways), airBaltic, invested in Polish LOT and lots more. His mantra was “1 in 5 in -95”. Clearly, if “1 in 5 in 95” had been correct, then his strategy would also have been correct. But he was wrong, as there weren’t only 5 airlines left in the world then. This is very interesting when it comes to business strategies. If you create a future goal, build a strategy through this goal and make prognoses for what it will look like in the future, and you end up being wrong, this can have catastrophic consequences. Kodak is a great example for this, with “<i>we are definitely not going to focus on digitalization</i>”. Bang, and the world’s largest corporation is out. Just think about it, it is simply fascinating. However, this is also, in some way, what Jan Carlzon did. The decisions he made at that time are the same ones that almost took us out of business. We often get laughed at in media, due to high costs etc., which there is a lot of rhetorical thought about it. We are incredibly good at cost control; I think people would be shocked if they witnessed how we work. For example, I am now working in Stockholm where I am responsible for combining three departments to one and letting go of 30% of the staff. These are really tough processes, which I think utterly few people understand the extent of. However, the thing that really diminished our capital was Span air. I believe it was about an 11 million investment. What happens when you invest is that you make the investment at one point and bookkeep the balance of your investments, which might not be realistic after all. So when it starts falling apart, you notice that “what the heck?” it is recorded as heaps of billions. And then all your capital is gone. The same thing happened to most of the investment we did abroad. The retrospective view, which you asked for, is that some of the things that happened during that time were that we had a very rigorous growth strategy that was built upon the futuristic view of the board and the owners, which turned out to be wrong. Current management are now doing their best to clean it up the mess. We managed to do so now, so the only thing that remains is to get the operations good. This was my learning. If I should ever gain a top management position in a large corporation, one cannot make any Soria Moria promises; one has to be “die hard” on the core of the business. Although this can also be wrong. Suddenly someone outcompetes you, you get bought out and your are fractionated. It is difficult, but if we look at it with today’s perception, SAS probably should have picked a less rigorous growth</p>

	strategy and concentrated about its home market in Scandinavia and grow there.
<b>Cathrine</b>	During the 90s, SAS had a strong focus on building alliances etc., while you now are retracting and focusing more and more on Scandinavia...
<b>Snorre</b>	Yes, today we do that. Our vision is to make life easier for the frequent travelers in Scandinavia. There are a lot of visions and one can make a lot of great Power Points and all that, but to us it is very realistic to consolidate here at home and get the operations running well.
<b>Cathrine</b>	Exciting. There is another thing that I want to bring up. Ryanair entered the Norwegian market in 1997, and you launched Snowflake in 2003.
<b>Snorre</b>	Yes, that is right. I'm not sure whether this was a response to Ryanair, but it was probably an attempt at establishing a cheaper, more cost-efficient operating platform.
<b>Cathrine</b>	What were the ideas behind going in this direction?
<b>Snorre</b>	I was not in any top position at that time, but I can say that the reasoning around it existed then, and exist still. You can see it actually happening today. Lufthansa is moving more and more of its short-haul production over to German Wings. Finnair is doing exactly the same thing; they let flybe handle almost their European production, so that they only fly long haul themselves. KLM has done so for many years. They let transavia and KLM city-hopper (their own low-cost concept), drive much of their production. There is a lot of this happening in the USA. American Eagle fly for American Airlines. The point is that this happens to large airlines, almost always. It is happening to Norwegian in these days as well, their cost start piling on. This pioneer-spirit during the start phases passes. It will also do so for them. You will never be able to maintain this pioneer-spirit for ten years - it never works. The CEO of Eastern Airlines said that you should never run an airline for more than 7 years. That is when these costs start to add up. The idea behind creating Snowflake or other more cost-efficient airlines under the same brand is just about that – keeping the costs down by trying to create another platform next to the existing one. This is because it is so difficult to reach Ryanair's cost level. It is actually impossible to reach their level, but let's say to get close to their level; many airlines attempt to take up the fight internally, because we see that they don't succeed with this. You can see what's happening in Lufthansa now, strikes, AirFrance has had strikes all fall, and now they give up. AirFrance has more or less given up by now. We also didn't succeed with Snowflake, and there are lots of reasons for that. It is not so much that it failed; rather one didn't see the total effect SAS wanted and decided to let it go. But I wouldn't rule out the chances for more of these attempts. Perhaps they are a reality now more than ever, given the

	situation we are witnessing with Finnair and the others.
<b>Cathrine</b>	When you mention this about 7 years, do you make more short-term investments compared to long-term investments? How do you conduct the planning now?
<b>Snorre</b>	<p>The entire industry, with the exception of the airlines in Asia because they are in a completely different situation, with extremely low costs and anticipations of an extreme growth within the continent. I hear Bjørn Kjos' argument "Now all the Chinese people come to Norway", this is not true. When they receive money and business develops in China, they will start flying a lot within China, there will be an enormous growth in China, and within Asia. There will probably be one or another traveling here on holiday, but the huge growth will happen over there. They are on a curve like this (pointing arm in upward angle) so they can naturally make more long-term plans. Unfortunately, in Europe most airlines, almost all of them except Ryanair, are living on a shoestring. This is because the profit margin is so poor and most airlines have very little valuable assets. They lease planes, lease office space; there is unfortunately a lot short-term thinking, in terms of investments. What we have done is to develop a strategy that we believe has a long-term perspective. We only focus on frequent travelers whom have completely different needs than for example, the ones who travel to Crete once a year. We remain in a good position in this market. We have a large market share, loyal and satisfied customers within this segment. It is a strategy with a long-term perspective, which doesn't require too large investments. We are in no way planning on doing what Emirates and Norwegian did, where they have orders of 2-300 aircraft. We are nowhere near that strategy, and I do not envy them because I know how difficult it is to find new earnings. However, generally, our industry does not exist in a 10-year perspective. When we are sitting at executive meetings we think of next week, next month, next year.</p>
<b>Cathrine</b>	Considering the industry's sensitivity towards the external environment, does this affect your long-term or short-term plans?
<b>Snorre</b>	<p>No, not really. I know you really want to get to those events such as the ash cloud and so on, but that is not really the case. For instance, we just closed the budget for next year, and of course we keep in mind every year that something might happen, by not setting the unrealistic targets and so on. However, the only thing that is the same every year is the fact that when something happens it was completely unpredictable. It is often something completely new. The ash cloud, no one had even heard about it before. Lehman Brothers – who saw that coming? Or 9/11? These are episodes that we in no way could control. But these are the big ones, the small ones that the newspapers don't write so much about, have a huge effect on us. Take for example investments in the oil sector. Currently there are a lot of discussions about the oil price of \$80 per barrel. All investments halt and this has a rather "instant impact" on us. No one knew that either. What we do is that we</p>

	<p>conduct quite a few analyses of the macro-economic environment, however you cannot have any sort of financial back up, e.g. 500 million in case something happens. We do everything we can to ensure variability in our costs. A lot of the outsourcing strategies lie there. We only pay when we fly, for handling, taxes, fuel, staff, and we pay nothing when we don't fly.</p>
<b>Cathrine</b>	<p>Variable costs?</p>
<b>Snorre</b>	<p>Yes, exactly. And this is a strategy which we, and many other use to prepare ourselves for crises where turnovers are diminishing. If you are stuck with too many fixed costs, you'll fade. But we don't make any concrete actions for these events, no.</p>
<b>Cathrine</b>	<p>Ok, I see. I recently read a book by Nassim Taleb, titled Black Swan, which I mentioned in our last meeting. The book is about these events arising from nowhere, and which has devastating impact in the markets. These Black Swans are impossible to predict, just like you said. However, after they occur, we typically are very good at explaining why they occurred.</p>
<b>Snorre</b>	<p>Yes, exactly! I agree completely. But it is interesting, isn't it? I remember Harald Magnus Andreasson, one of the best in Norway, two weeks prior to the bankruptcy; he claimed the stock market would rise. Today, he says that he bites his lip when he thinks about it. But just think about it, the fall 2008, the prognoses here in Norway were that the future growth had almost no limits. The future looked great. Bang, and the entire US fall over and we are standing here with our Icelandic banks and suddenly the entire card house collapsed. This is what makes it interesting. I do not like to talk negatively about our competitor, I have enormous respect for Norwegian, I really do. However, if you read some of the comments about Norwegian. You may Google Kenneth Sivertsen from Arctic Securities, he is an airline analyst, and a good one too, but there is no limit to how exceptionally he talks about Norwegian. Norwegian are very talented, no doubt about it, but I know there is a crisis there now. They are unable to deliver black numbers and have an extremely speedy investment tactic. I think you have to have been in an airline to be able to understand that if you have a new aircraft arriving every month, you also need to have a place for where to put it. Besides, the facts say that the profitability of per aircraft, i.e. the number of aircraft and a profitability margin, EBT margin, is degressive. By definition, the next aircraft will always be the worst; otherwise you have done something wrong. If your last flight is the best one, you should have invested in those routes last year. If you did your job right, then the next aircraft you put into production will always be the worst, and you need a three-year perspective to get those routes really profitable. So when Norwegian receives one new aircraft per month, I know that the profit margin get pressured unless they are able to optimize their existing portfolio – remarkably. And of course, portfolios will always decrease proportionately because they grow. It is the same as running a</p>

	<p>7/11 and making huge profits from coke and cigarettes. You have an enormous growth scenario ahead of you, and you attempt to grow by 10% in products, and your proportionate profit will decrease over time. You have to find a way to lift this all together. Of course, one might succeed, but I know there are huge uncertainties involved. Now, I am saying this in relation to these commentators, Lehman brothers and the ability to predict these things. No one was able to predict any of these events. I vaguely remember one person saying something about the financial crisis before it happened, but people just laughed at him. Norwegian also has some of this perspective within our industry. All there is; “the sky is the limit” and just keep going. It’s fascinating.</p>
<b>Cathrine</b>	<p>Yes, very! Incredibly interesting industry. A lot of things happening. I have read a report by Accenture regarding the Middle-eastern airlines. How do you view these in all of this?</p>
<b>Snorre</b>	<p>Yes, sure. The three big ones are Etihad, Qatar and Emirates, each in their own country. You should check out Flightradar24.com. It gives you a fantastic live radar picture of the entire world. You will then see the almost absurd about these three airlines in their countries, very close to each other. There is almost no air traffic at all down there, except from the enormous bombarding towards the hubs. They are in direct competition with European- and the biggest Asian airlines, and will drain the traffic between east and west mainly. This is also their business model, flying to these holiday places, Abu Dhabi, Doha, and Dubai, as these are more marginal. Even though they try to make Dubai into something big, this is the big picture. Now what do we think about it? Well, it’s creative. It is thrilling. Although, now that they have grown so big, people tend to not be so happy about them any more. Mostly because they work with completely different economic conditions. No one knows exactly how they operate, but I think most people know, deep inside, that these airline are not paying for fuel and they are virtually financed through credit facilities costing them nothing from the oil money down there. They are personally owned by state and sheiks and no one controls their financial statements. What we do know is that when you purchase an aircraft today, you have to have credit assurance and you have to borrow money. However if your credit facilities are for free, it is all “piece of cake”. But no one else besides them truly understands how they do it. I was at a conference the day before yesterday, and someone from Emirates were there. They have 259 wide body aircraft today, and each one of them is about 1-1,5 billion NOK, either by purchasing, or binding capital for lease. That is 350 billion NOK in aircraft. Can anyone afford that? They are definitely not financing these through operations, that is impossible. In the earlier days, airlines always had to finance their growth through operations, meaning you could grow by 1-2 aircraft a year. It then becomes easier to understand that something about this airline is not right. He also said they had 250 more wide body aircrafts in order for the next 10 years or so. These perspectives are just crazy, that everyone understands that this cannot be financed through operations and there clearly are</p>

	<p>some other mechanisms involved. This is technically not legal according to trade agreements, but at the same time it is extremely difficult for international organizations to get insight and follow up on this. I know Lufthansa and the other big ones in Europe are after them, because we see that they are diminishing the profit margin, and we have to have the same starting point. SAS has no official statement according to this because we are not so much affected by it. However it is clear that in the long run these airlines are slowly removing all fundamental operative margins for Lufthansa, BA, Air France, KLM and the other big ones.</p>
<b>Cathrine</b>	<p>You are not at all threatened by them?</p>
<b>Snorre</b>	<p>No, it is all about having the right strategy. And again, our strategy is to prioritize the frequent travelers who travel a lot in Scandinavia. Emirates will never fly from Oslo to Malmø, and this is our core. Norwegian domestic routes are the main part of our business, and we are not much affected by competition outside of this area, and we are not so worried about it. On another hand, you might have heard some of the debates about Norwegian and employees from other countries etc. This is something we care about. We think it is important that everyone should be working according to the same terms, this means the emirate airlines avoid and Norwegian is attempting to. Ryanair has done it all along, but most people disregard them due to their completely different business model than the rest of us, and don't attack us directly at the same airports etc. They are not directly attacking us, they mistreat their customers, and these are not our customers, so they can keep on doing what they do for all we care. However, when you are in direct competition, as with Norwegian, we care about having the same terms and conditions for everyone.</p>
<b>Cathrine</b>	<p>Ok. Thank you. I would like us to talk about trends. What trends did you notice since you started and in the last 10 years?</p>
<b>Snorre</b>	<p>Nice question. Very nice question. There are lots actually. Trends can be a lot, but we can start with it from a management perspective. When I started, all airlines owned their aircraft. One purchased aircraft by borrowing money, and then buying. It was therefore largely based on financing investments through operations. Similar to how one bought houses back in the day. You save for 10 years and "now I can buy". All personnel were in-house. SAS for example, had our own catering department, we ran the duty free store, owned hotels and we always thought the one should control the entire value chain and all its elements. Where we are standing today, is that almost all airlines exclusively focus on their core activity – to fly. Now we should keep administrative staff to a minimum, focus on cabin crew and lease aircraft. This is because one has operated for such a long time and sold all assets, and almost all airlines have done this. This is the result of extremely disappointing operations over many years. What people are discussing now, due to Norwegian's decision to even outsource their cabin crew, is what is then an airline? The cabin crew is the last thing we have, otherwise an airline is just an aircraft with</p>

	<p>a logo. Our CEO, Rickard has said that he does not favor this development, however if we are forced to do it, we have no other choice. So this outsourcing strategy is a clear trend, and there is no doubt that it will continue. The question is only when it will stop, and what kind of backsides it creates. I am not sure, however I don't think it is sustainable. This is about a number of issues, it is about safety, and in a long-term perspective it is the same people who will be flying with you and at some point the cost effect will be zero. So outsourcing is a trend that is very clear, and which will continue for another few years. I also think a lot also goes to administration. For SAS, all we do is downsizing, but we are still left with an administration consisting of SAS employees. However this will probably also be outsourced to a greater extent, and the future scenario of an airline will in this case be virtual. Customer perspectives also go through different trends. Trends for our customers, frequent travelers deal a lot with automatization and self-service. SAS is top performer in this aspect, which is quite nice to be able to brag about. IATA runs a self-service automatization award once a year, and we win this every year. They have three categories, bronze, silver and gold, in addition to platinum award. The latter one is the one we win every year. Because 80% of our customers fall under the self-service concept, i.e. dealing with the entire process by themselves until they are sitting on the plane. The airline that come second and wins the gold award has about 30% in this category. We are really top class, which we are very proud of and keep working with. What you experience to a large extent with more and more airlines today is that you can check in ahead of time, through the app. We were the first one to develop this. Automatic bag drop and fast track and everything should be up to the customer. And I would like be so daring to say that we have been the main driver for these. Products such as fast track for example, were at some point invented by SAS and now we see it all over the world. These are trends in which we are always working very actively to follow and be in the front. I think that in 5 years, there will be no staff at check-in at all. You simply go drop of your luggage and everything is dealt with automatically. Most likely, there will also be no staff handling the boarding processes. Automatization, self-service, both clear trends. Furthermore, the trends are moving towards, simple but comfortable, at least for our customers. You don't need a three-course meal, champagne and canapés to fly to London. Some things are important, and that is good quality, simplicity and a lot of focus on simplicity in our on-ground value chain, hence we develop products such as lounges and fast tracks.</p>
<b>Cathrine</b>	Are there any trends that you chose to move away from?
<b>Snorre</b>	Yes, business class on short-haul for example, which we removed. We just chose to move forward on the simplicity concept. I flew to Zurich with Swiss Air not long ago and there were 36 business class seats, and I was the only one there. Of course, the service was fantastic, but they are dinosaurs. Everyone understands that in a few years, this is all gone. This is why I think what the emirates are doing, with suites, showers onboard etc. is very cool to talk about. However it is only directed

	<p>at a few people in the world. It's cool, and if you or I were to experience that, it would be only if it was given as a gift or someone else was paying. If you came home and told your family that you spent 100.000 NOK to travel with a shower on board, people would think you are stupid. What kind of judgment is that? One for sure would never have said anything like that at work. And if you were a manager, it would definitely hurt your reputation. I bought my phone, and I save money, this is the best for us. I don't believe in their strategy at all, I think it will die soon. This is about the emirate companies of course. They choose a position that is cool to talk about, but is wrong and affected by the insane wealth of their countries of origin. Here in northern Europe we are blind to this, as we have completely different values. Other trends, more management level; due to the pressing economic conditions, SAS has decided to move away from the strategy to please everyone. Sure, one wants to invest in such a way that one can please everyone, but SAS made this clear decision last year. We only focus on the people who travel a lot; this is defined as more than 5 travels a year in Scandinavia. We now see that the trend in Scandinavia is that many people travel a lot. 50, 100, 200 travels a year. These are the ones we focus on. When my mother or father who are 70 years old are travelling once a year, they might of course do this with us, but we do not tailor products according to their needs, and we do not invest thereafter. There are probably more and more airlines following this strategy that you have to leave out certain customer groups.</p>
<b>Cathrine</b>	<p>Ok. I see that time is ticking and you need to be going. But thank you so much for your input and your time.</p>
<b>Snorre</b>	<p>No problem. It has been fun. Don't hesitate to get in touch if you need anything. I am always happy to help and looking forward to reading your results.</p>