

Towards more sustainable air traffic

Case: Flybe Finland

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<p>The worldwide demand for air transportation has been estimated to double during the next two decades. Given this significant industry wide growth, as well as the ever more increasing public demand for sustainability, airlines are under constant pressure to implement more sustainable practices in their operations.</p> <p>The aim of this thesis was to build a comprehensive picture of the current state of sustainability in the airline industry. This research aimed at finding out how airlines can apply the principles of sustainable development in their operations. Furthermore, this study focused on finding out how the case company, namely Flybe Finland, is managing the aspects of environmental, economic and social sustainability.</p> <p>This research was conducted as a qualitative case study. An in-depth interview with two representatives of Flybe Finland was held in March 2015 in order to find out the importance and level of sustainability in the company. Since environmental sustainability is usually the single most important aspect of sustainability for aviation industry, the emphasis of the interview was on environmental issues, only briefly touching on the topics of economic and social sustainability.</p> <p>The results of this thesis indicate that Flybe Finland appears to embrace the fundamentals of sustainable aviation development, most notably through improvements made in terms of fuel efficiency and optimized flight operations. They are committed to constant monitoring of their operations in order to reduce emissions and improve their environmental, economic and social performance.</p>	
Keywords Airlines, air traffic, sustainability, sustainable tourism	

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1 Introduction

The International Air Transport Association (IATA) estimates that the airline industry will see an average of 4.1% annual growth in the number of passengers transported over the next 20 years. That would more than double the current demand for air transportation, reaching up to 7.3 billion people carried by air by the year of 2034. (IATA 2014.) Given this significant growth predicted to be seen in the volume of air traffic within the next decades, it is becoming even more important for airlines - just as for any other businesses - to introduce new ways of applying principles of sustainable development in their operations.

This thesis aims to build a comprehensive picture of the current state of sustainability in the airline industry, using Flybe Finland as a case study. This research focused on finding out how airlines can apply the principles of sustainability in their operations, and what kind of existing practices there are that commercial airlines could implement in order to become more sustainable. Furthermore, the aim of this research was to find out how Flybe Finland as a company is managing the aspects of environmental, economic and social sustainability.

This research was conducted as a qualitative case study. The main data collection method used in this research process was an in-depth interview. Two representatives of Flybe Finland were interviewed in order to find out the importance and the level of sustainability in the company. Different practices directed towards performing flight operations in a more sustainable manner were discussed. To complement the qualitative data collected in the interview process, a content analysis of company data was conducted.

This thesis report starts with a literature review that focuses on providing the reader with sufficient background information about the principles of sustainable tourism, as well as its environmental, economic and social dimensions. Furthermore, the role of sustainability in the airline industry and its current implications on flight operations worldwide are discussed. After covering the theoretical framework of the thesis, the focus shifts to the methodology used in this particular research. The data collection and analysis processes are explained in detail, also providing the rationale for the research approach and techniques used.

The last chapters of this report focus on the results of the research process. They include a closer inspection of Flybe Finland's operations, as well as the extent to which the principles of sustainability are applied. Different practices of embracing sustainability are discussed and analysed based on the knowledge gained from the theoretical framework. The

different aspects considered, namely environmental, economic and social sustainability, are studied and their importance for the airline's overall performance is explained.

The last chapter provides a brief overview of the aim and results of the study, as well as comments on the thesis process itself. The writing process of the thesis is shortly evaluated and commented on. Furthermore, the last chapter discusses the delimitation of this research and provides emerging topics regarding aviation sustainability that could be further researched.

2 Sustainability and tourism

This chapter will provide an explanation of the main concepts and the theoretical framework for this research. The concept of sustainable tourism as well as its environmental, economic and social dimensions will be clarified. Once the reader has gained sufficient background information about sustainability in general, this concept will also be examined from a slightly different angle; the last subchapter will discuss the role and implications of sustainability in the airline industry.

2.1 Sustainable tourism

Tourism has traditionally been regarded as somewhat unsustainable industry. During the past decades it has been accused of spoiling natural environments, exploiting poor nations as well as destroying old cultures and lifestyles. Tourism industry has been viewed as an unstable industry of only short-term income. It has often been claimed to be decreasing the attractiveness - both natural and cultural - of a destination. In short, tourism has been accused of exploiting the same resources it fundamentally relies on. (Griffin, Harris & Williams, 2002, 24.)

However, more optimistic view on tourism industry has also been presented multiple times: it has been claimed that - at least partially - thanks to tourism, world would become a more peaceful and united place to live in for the future generations. Besides its negative impacts, growth in tourism volumes worldwide could have the power to make a positive change in the world. An ever increasing proportion of people around the world are now able to travel the world. These new social contacts between tourists and the locals could further enforce understanding and respecting the value of cultural differences - and result in benefits for both tourists as well as the hosts. (Griffin, Harris & Williams, 2002, 32.)

As an industry that has shown rather steady and continuous growth during the past decades, it is especially important for the tourism sector to find new ways to meet the challenges it is now facing. Sustainability has already become a key concept for many players acting in the field of tourism development. Therefore both stakeholders in the tourism industry as well as governments should address these issues and respond to them in order to ensure that tourism is making a positive outcome for both the tourism product suppliers as well as consumers. (Griffin, Harris & Williams, 2002, 25.)

Weaver (2006, 10) describes sustainable tourism as “tourism development that meets the needs of the present without compromising the ability of future generations to meet their own needs--“. In other words, the purpose of sustainability is to enable the continuation of economic growth - but at the same time it needs to be made certain that the environmental, social or economic carrying capacities of the host communities are not excessively burdened.

(Swarbrooke, 2002, 13.)

In simple terms sustainable tourism can be seen as a set of principles related to sustainable development that are applied to the tourism industry. This includes the efforts to minimize the negative impacts of tourism - while still maximizing the positive impacts.

(Weaver, 2006, 10.)

There are three dimensions of sustainable tourism, namely environmental, economic and social sustainability, which all need to be taken into consideration when striving for more sustainable tourism management (Swarbrooke, 2002, 47). The following subchapters will further look into each of these aspects of sustainable tourism.

2.1.1 Environmental sustainability

Griffin, Harris and Williams (2002, 11) argue that the economic growth related to an increased tourism activity is often in conflict with the attempts to protect the environment. While this might hold true in some cases, there are also sustainable ways to manage the increase in tourism volumes.

(Griffin, Harris and Williams, 2002, 11.)

The relationship between tourism and the environment is rather peculiar: tourism is heavily reliant on the attributes that make an environment attractive from the tourists' perspective. Still tourism also has the potential to significantly affect those attributes - or even ruin the natural attractiveness of a given destination.

(Sharpley, 2009, 4.)

For many people the word sustainability in itself brings to mind environmental protection and preserving natural environments. This is indeed an important part of sustainability for any stakeholder in the tourism industry. (Swarbrooke, 2002, 49.) Environment comprises of natural as well as built or farmed environments alongside the wildlife and natural resources it has. At its simplest, tourism could be seen as a threat to all of these attributes of environment: uncontrolled and rapid tourism development could at the worst damage

vegetation and natural environments, disturb the wildlife and lead to air and water pollution. Heavy reliance on fossil fuels and problems with litter as well as exploitation of biological resources can also take place if tourism is developed in an unsustainable manner. (Swarbrooke, 2002, 50-51.)

However, while there are many problems that may arise from rapid tourism development, the tourism industry as such should not be seen as solely evil. There are many positive aspects surfacing from increased tourism volumes - and many of these could even work as a motivation for environmental protection. Tourism is an industry with a huge potential in terms of creating income; the desire to increase the flow of foreign currency might encourage local governments to set up policies that aim to protect the environment. (Swarbrooke, 2002, 50-51.)

Tourism destinations are often heavily dependent on their level of attractiveness; certain attributes such as beautiful natural surroundings and landscapes are among the most fundamental prerequisites for an attractive tourism destination. Rapid changes for the worse could easily end up decreasing the interest of tourists to visit the destination. This could - and should - definitely provide motivation for stakeholders in the tourism industry to conserve their environment. (Swarbrooke, 2002, 51.)

Visits to naturally attractive destinations might in turn encourage tourists to be more aware of their surroundings and provide them with the motivation to treat the destination environment responsibly. The power of appreciation for these natural environments should definitely not be overlooked as a motivation for environmental protection. (Swarbrooke, 2002, 51.)

The environmental attractiveness of a destination is a big part of the experience the tourists wish to pursue while on a holiday. Therefore environmentally sustainable tourism development should be regarded important for any developing destination. Environmental sustainability could be seen as the most fundamental key to the long-term success of a destination. (Sharpley, 2009, 22.)

2.1.2 Economic sustainability

The economic aspects of sustainability rarely get as much attention as the environmental dimensions of sustainable tourism - even though tourism industry presents nations with

great opportunities in terms of economic development. However, while tourism certainly has the potential to bring economic benefits for the destination, it also brings along costs for the host community.

(Swarbrooke, 2002, 59-60.)

In numerous countries around the world tourism is a major industry and the main source of income for many. Tourism activities are a basis of growth for many transnational corporations and many people are employed in the tourism sector in the richer parts of the world. However, tourism industry also brings income to many people in poorer countries, resulting in foreign currency earnings in many of the developing countries. (Swarbrooke, 2002, 59.) This way wealth is transferred from richer countries to some of the poorest regions in the world. (Sharpley, 2009, 29.)

Tourism creates jobs and therefore ends up benefiting the local economy. But even though tourism industry has the potential to bring income for the local community and their businesses, overdependence in international earnings should be avoided. If the host community is fully depending on tourism activities and the income it brings along, it makes the economics of the community rather vulnerable; any decline in tourism volumes would end up affecting the whole economy.

(Swarbrooke, 2002, 60-61.)

Tourism industry has had its fair share of criticism in terms of its economic sustainability. Every now and then tourism raises concerns of economic exploitation: companies within the industry are tempted to focus on creating short-term profits and outsource their operations in the hopes of instant revenues. Corporations might be committed to their own needs and goals only, ignoring the needs of the local society. Even though this might sometimes be the case, the numerous positive effects of tourism on the local economy should not be forgotten. Increasing tourism activity naturally brings along income and job opportunities for the local people - not to mention the positive effect on the whole economy.

(Mason, 2008, 36-37.)

Despite the amount of jobs created, a sudden increase in vacancies available can not only be seen as fundamentally positive development, since the tourism sector is rather vulnerable to seasonal fluctuations. Many vacancies in the industry also involve rather low salaries, short contracts and odd work hours. The demand for workforce might be only seasonal and fluctuate a lot depending on the time of the year.

(Mason, 2008, 36-37.)

The key to economically sustainable tourism development is to implement and support forms of tourism that optimize the benefits for the local communities. It is desirable that all the visitors would be expected to pay fair prices for their holiday experiences, benefiting the whole local economy. The negative impacts and costs for the local community should be minimized, while the economic benefits of tourism would be widely spread within the local population.

(Swarbrooke, 2002, 66.)

2.1.3 Social sustainability

Tourism industry plays an important role in terms of preserving the unique cultures of destinations. It is an industry with the crucial power to either cherish the local culture - or, at its worst, to destroy it. Therefore the key players in the tourism industry should always aim at contributing positively to the social and cultural sustainability of a destination.

(Griffin, Harris & Williams, 2002, 31.)

Tourism can have a significant impact on the host community's culture. This includes influence on the local lifestyles, behaviours, heritage and values - as well as impacts on the religion, arts and the language spoken at the destination. (Swarbrooke, 2002, 72.) A rapid boom in the tourism industry could have a negative effect on the local culture and lead to changes in the host community.

(Griffin, Harris & Williams, 2002, 31.)

Tourism brings together people from different cultural backgrounds. This direct contact with foreign influences is likely to have sociocultural impacts on the host community of any destination. Therefore much attention has been paid to these negative impacts. While this contact between the tourists and the local society might help them to understand and value each other's cultures and ways of life, this might also end up changing the host community drastically. Communities dependant on the income generated from tourism activities might start adapting to the needs of the tourists in the hopes of attracting more visitors - instead of preserving their own values and ways of life.

(Griffin, Harris & Williams, 2002, 31.)

The most problematic aspect of measuring the foreign impacts on the sociocultural behaviour is the fact that it usually occurs during an extended period of time: it might take years, if not decades, for the behaviours and values to significantly change. These impacts are

also rather imperceptible and intangible of nature, which makes them even harder to detect.

(Swarbrooke, 2002, 69.)

Sustainable tourism is always socially equitable: it needs to focus on fulfilling the social needs of both tourists as well as the hosts. (Swarbrooke, 2002, 78.) Sustainable tourism development should always begin with assessing the likely impacts the chosen form of tourism is to have on the local society. Socially sustainable forms of tourism should always end up respecting the social and cultural diversity of any given destination. Tourism destination management needs to involve local communities in both the planning and executing stage of socially sustainable tourism.

(World Tourism Organization, 2007, 14.)

2.2 The role of sustainability in the aviation industry

The increasing awareness of the significant role that tourism transportation plays in climate change and global warming led to an ever growing demand for more sustainable transport operations in the 1980's. It resulted in companies emphasizing the importance of conserving and protecting the environment as well as an industry wide interest in developing new technologies in order to introduce more environmentally friendly tourism transport operations.

(Page, 2009, 295-296.)

The consumer demand for more sustainable tourism services and products has been increasing during these past few decades, resulting in greater pressure for more sustainable practices within tourism companies. Nowadays emphasizing environmentally sustainable practices can even work as a competitive advantage for tourism transportation companies; the ability to communicate the environmental friendliness of company's products and services could potentially have a huge positive impact on the image of the company.

(Page, 2009, 300-301.)

According to Swarbrooke (2002, 294) "transport is perhaps the most important aspect of the sustainable tourism debate because all tourists use transport"; some kind of transportation services are always needed in order to get the tourists to the tourism product.

Therefore the negative impacts of tourism related transportation are rather well documented - especially so when it comes to air transportation.

(Swarbrooke, 2002, 287.)

The International Air Transport Association (IATA 2014) estimates that the future demand for air traffic will more than double within the next two decades - resulting in up to 7.3 billion people carried by air by the year 2034. While this presents an annual average growth of 4.1% to be seen in the volume of air passengers to be transported over the next 20 years (IATA 2014), it is becoming more and more important for airlines to introduce more sustainable ways of operating in the future.

However, while all the parties involved in the airline industry acknowledge the importance of developing more sustainable air transport operations, the concept of sustainability in terms of commercial aviation has yet to be clearly defined. The industry seems to be lacking a commonly accepted definition of what makes air transport operations sustainable - and how their negative and positive impacts should be measured.

(Janic, 2007, 8.)

Janic (2007, 8) argues that in general the sustainability of any form of transportation “could be achieved if its overall positive contributions to the economic and social welfare continuously increase (or social negative impacts decrease) and the total negative impacts on people’s health and the environment decrease to or below given absolute targets or thresholds”.

Environmental aspects of sustainability are undoubtedly the most important aspects affecting the overall sustainability of any airline worldwide (Swarbrooke, 2002, 290.). Especially in the past the focus of the stakeholders in the airline industry has been mainly on the environmental sustainability: for example the issues related to the greenhouse gas emissions as well as the noise and air pollution levels around the airports have been acknowledged for years (Janic, 2007, 8.). On top of that the environmental impacts of air travel are rather multi-layered: they are related to both the vehicles used (aircraft) as well as the infrastructure needed for the operations (airport facilities) (Swarbrooke, 2002, 290.).

While the industry has seen a lot of progress in terms of developing more environmentally friendly aircraft, the airport infrastructure in itself is still causing many environmental problems. Some practices required on the ground can be considered environmentally unsustainable; airport operations require usage of toxic chemicals as well as big quantities of water and electricity. (Swarbrooke, 2002, 290-291.) The physical impacts of airport operations raise issues regarding both the environment as well as people’s health. Concerns related to air and water pollution around the airports have surfaced as well as the inconvenience caused by the noise of the aircraft engines during take-off and landing.

(Janic, 2007, 21.)

While the popularity of air travel has been increasing rather steadily year after year, airports have become more and more crowded. This has already resulted in air traffic congestions at some airports, with aircraft waiting at the tarmac for increasingly long periods of time to get the permission to take-off - with their engines running. The waiting times for a landing spot have also increased at some airports, leading to bigger fuel consumption as well as more emissions produced.

(Swarbrooke, 2002, 290.)

Since air traffic relies heavily on non-renewable resources and requires the use of jet fuel, it is impossible to convert airline operations - or even any other form of transport - totally sustainable and environmentally friendly. However, with the predicted growth of air traffic and furthermore its impacts on the environment and society, the industry is constantly under pressure to develop their operations in a way that would make them at least more sustainable.

(Swarbrooke, 2002, 289-290.)

The most significant developments so far have been made in the field of technical and technological improvements. The performance of aircraft has been improved notably in terms of their engine design. The modern aircraft engines are more fuel-efficient, more powerful and less noisy than their predecessors - and therefore the emissions produced by burning jet fuel have decreased. These changes made have also enabled aircraft manufacturers to design wide-body aircraft that fly with only two engines instead of using four less powerful engines in their aircraft.

(Janic, 2007, 19; Swarbrooke, 2002, 290.)

Airlines are on constant watch when it comes to improving their fuel efficiency. This is partly due to the international regulations imposed on them (Swarbrooke, 2002, 290.) - however, many airlines monitor their fuel efficiency even more conscientiously than these standards would suggest. The savings that can be made on fuel quantities used naturally minimize the negative impacts on the environment, for example in terms of cutting down on the emissions and usage on non-renewable materials. However, this concentration on fuel efficiency leads to improvements in terms of the airline's economic performance, as well: savings on fuel quantities result in savings on the money spent on jet fuel.

(Janic, 2007, 47.) It can be concluded that improvements in terms of fuel efficiency result in a so called win-win situation; less fuel consumption means less burden on the environment - as well as less fuel costs for the airline.

While there are undoubtedly many issues and challenges the airline industry will still need to face environment wise, the overall sustainability of this huge industry should not be judged only by its environmental impacts. Gross and Schröder (2007, 199) address the significant benefits the airline industry is creating for the society, such as its employment effect as well as positive contributions to the world trade. Airlines that choose to fly to smaller regional airports promote the regional development in these areas. In simple terms, the economic and social benefits of worldwide aviation industry are enormous: aviation creates wealth and contributes to the growth in overall tourism.

(Gross & Schröder, 2007, 199.)

ATAG, the Air Transport Action Group (2014, 5.), estimated that in year 2012 there were 58.1 million jobs backed up by the aviation industry worldwide. These jobs could be classified as direct, indirect, induced or tourism catalytic. The jobs directly supported by air traffic include for example airline and airport employees, as well as people working in the aircraft manufacturing industry. It was estimated that alone these people directly employed by aviation industry reached as high as 8.7 million in 2012. Indirect employment impact refers to employees of different suppliers for aviation industry; for example construction companies building airport infrastructure and aviation fuel suppliers are indirectly employed by the air transportation industry. The volume of these types of jobs added up to 9.8 million. Aviation induced jobs are then supported by the spending of those either directly or indirectly employed in the aviation industry; estimated to have reached up to 4.8 million jobs in year 2012.

(ATAG, 2014, 10-11.)

While aviation industry as such has a globally huge employment rate, even greater is the amount of jobs within tourism that are enabled by aviation. ATAG (2014,12) estimates that aviation supports a total of 35 million jobs in the tourism industry. This is yet another example of aviation's significant contribution to the people's wellbeing and economies worldwide.

(ATAG, 2014, 12.)

Besides aviation's economic importance in terms of increasing global trade and enabling economic growth related to tourism, the airline industry provides many social benefits worldwide. (ATAG, 2014, 4.) The increasing flow of goods and people results in developing social and economic networks between different countries. Furthermore, this encourages closer relationships between nations worldwide.

(ATAG, 2014, 6.)

The speed and reliability associated with aviation makes quick access to emergency assistance possible in many remote areas around the globe. Many remote communities exist in areas where road or rail networks are in bad condition - or simply non-existent. Air transportation provides these communities the access to services and health care, as well as the connectivity to other parts of the world. Furthermore, this enables economic growth, flow of workforce as well as improvements in the living standards in various geographical locations around the globe.

(ATAG, 2014, 6.)

As we have learned from the earlier discussion, measuring the sustainability of an industry as multi-layered as aviation is rather difficult. On the other hand, it is a promising and steadily growing industry with huge economic potential that fundamentally enables our modern lifestyle and worldwide trade (ATAG, 2014, 4.). However, it is also an industry that is heavily reliant on non-renewable resources (Swarbrooke, 2002, 289.), thus creating challenges regarding environmental sustainability.

While environmental sustainability seems to remain the most problematic issue for aviation industry sustainability wise, there is no denying the significant improvements the industry has made so far. Even though aviation rarely receives praise for its environmental achievements, the industry has already succeeded in for instance reducing the amount of emissions produced, developing more quiet aircraft as well as having been able to improve the fuel efficiency of modern aircraft.

(ATAG, 2014, 6.)

Despite the issues regarding environmental sustainability, aviation industry continues to create wealth and contribute significantly to the growth in tourism volumes worldwide. These economic and social benefits created by the aviation industry are enormous and should not be overshadowed by concerns about the state of environmental sustainability within the industry.

(Gross & Schröder, 2007, 199.)

3 Research approach and methods

This thesis is research oriented and conducted as a qualitative case study research. The theoretical part of the thesis bases itself on literature as well as other relevant sources such as articles or web pages. In order to gain a more comprehensible and more reliable picture of the case study company's operations in terms of sustainability, research techniques chosen for this research included both an interview and a content analysis of documents related to the case company. The following subchapters will further justify the choice of methods used in the research process.

3.1 Qualitative approach

Since the aim of this thesis is to describe a certain phenomenon as comprehensively as possible - rather than to measure variables and their relationships - a qualitative research approach was chosen for this research. Qualitative research aims at gaining an in-depth understanding of certain phenomena or present circumstances. Therefore it often focuses on personal or contextual dimensions.

(Altinay & Paraskevas, 2008, 75.)

Qualitative research demands a thorough data collection process where behaviours, events or activities are examined. The focus of the research is on understanding processes, actions and motivations rather than on collecting quantified data. (Goodson & Phillimore, 2004, 3.) This means that instead of drawing conclusions based on figures, this type of research usually results in a comprehensible picture of a certain event or process. Due to the nature of the data collected generalizations should normally not be made based on qualitative research, since the findings might not be reliable enough in terms of transferability and they might not be applicable to other settings.

(Altinay & Paraskevas, 2008, 75.)

3.2 Case study

Case study is one of the most popular research approaches in studies investigating various phenomena within hospitality and tourism companies (Altinay & Paraskevas, 2008, 77). Case study can be considered as a relevant research approach when the research question seeks to explain a present circumstance or phenomenon. Research questions in these types of studies usually start with "how" or "why". The choice of method should be determined by a desire to understand a phenomenon that requires in-depth understanding and comprehensive explanation of the topic at hand.

(Yin, 2009, 4.)

When case study is chosen as a research method, the research process should start with a thorough literature review. Only after the needed background knowledge regarding the topic at hand has been gained, the research questions or objectives can be carefully formulated.

(Yin, 2009, 3.)

Case studies require processing more than one type of data in order to build a valid and comprehensible case study resulting in better understanding about the topic at hand. For example case studies of companies often require going through different kinds of company documents, archival records, brochures and reports.

(Altinay & Paraskevas, 2008, 77.)

Although there has been much debate over whether multiple-case studies could be considered better than single-case researches, according to Altinay and Paraskevas (2008, 78) neither one can unreservedly be regarded as a superior research approach. In their opinion the suitable number of cases should always be measured against the purpose of the study. Sometimes studies represent cases that can be considered as unique or extreme; in these types of case studies the choice of researching only one case is definitely legitimate and well justified.

In this research only one case company was selected to be studied. This was due to the fact that different airline companies are extremely hard to compare with each other in terms of sustainability of their operations. There are significant differences between airlines in terms of for instance size and type of fleet operated, extend of route network, amount of employees, operating environment and so on. All of these features naturally affect the airlines ability to apply principles of sustainability in their operations. Therefore scientifically reliable findings or relevant conclusions could most likely not be drawn from such comparisons.

3.3 Data collection process and techniques

The research process started with a thorough literature review. The author of the thesis familiarized herself with the key concepts regarding sustainability in the aviation industry and started collecting more background information about the case company, namely Flybe Finland. Based on this basic knowledge about the different topics and issues regarding sustainability, the actual data collection process for the empirical part of the thesis could be started.

This research was conducted as a qualitative case study of Flybe Finland's sustainability. The research process involved a content analysis of company magazines and other available data. Also an interview with Flybe Finland's representatives was held in order to gain a more comprehensive picture of the current state of sustainability in the company. The interview questions were designed based on the theoretical framework and the findings made during the writing process. Finally the data gathered from both the interview and content analysis was combined in order to build a coherent and comprehensive picture of the sustainability of Flybe Finland's operations.

The choice of using two different research techniques was considered to increase the credibility of the research. The following two subchapters will provide further information of the research techniques chosen for this research, as well as the arguments for choosing to implement these techniques.

3.3.1 Interview

Interviews offer many opportunities for the purposes of qualitative research. They can take place virtually anywhere, at any time and they provide access to specialist knowledge and/or wide range of information regarding experiences of different individuals. Data is collected by asking questions concerning the research topic, and recording the answers. This data collection technique enables looking into issues in depth with the interviewee. (Altinay & Paraskevas, 2008, 107.)

According to Altinay and Paraskevas (2008, 107) the first step for conducting any interview is to go through relevant literature in order to design the interview questions. The permissions for conducting interviews are generally asked 3-4 months before the interviews are to take place in order to secure the interviews. The overall process of conducting research based on interview is characterized by its high time consumption since interviews need to be carefully organized and prepared for. (Altinay & Paraskevas, 2008, 107.) However, conducting an in-depth interview was considered as inevitable part of this research process in order to gain a more comprehensible and thorough knowledge of the research topic.

The interview process started in October 2014 by inquiring Flybe Finland's representatives whether they would be willing to take part in a research regarding the sustainability in their company. They would be interviewed on topics related to environmental, economic

and social sustainability of the company. The respondents seemed eager to participate in this research.

In this research process the interview questions were designed based on the themes emerging from the literature review. This was done to ensure that the most important aspects regarding sustainability in the aviation industry would be discussed during the interview. A couple of topics that emerged from the content analysis of published company newspapers and the company intranet, Finntra, were also included in the topics to be further discussed. It became obvious that when it comes to airlines and the overall aviation industry, the single most important aspect of sustainability is perhaps that of environmental sustainability. Therefore the interview emphasizes itself on environmental issues, only briefly touching on the topics of economic and social sustainability.

While the interview questions were written both in English and Finnish, the author of this report decided it was best to conduct the interview in Finnish language. Since both the interviewer and the interviewees were Finns, it seemed natural to conduct the interview in their mother tongue or professional language. This was done to avoid any misinterpretation of the interview questions and to ensure that the answers would be as accurate and informative as possible. While the interview questions and answers were recorded and written down in Finnish, the interviewer later on translated the answers to English language.

The interview was held on 11th of March at Flybe Finland's headquarters at the Helsinki-Vantaa airport. Two hours' time was reserved for the interview process. There were two interviewees, Ann-Sofie Snåre and Tytti Haaga, who were interviewed simultaneously. Ann-Sofie Snåre has been employed by Flybe Finland for over ten years and she is currently working as the Head of Operations Support. Tytti Haaga has been working for the company for over three years. Her current position is the Marketing and PR Manager, and she is - together with her commercial team - responsible for the marketing and public relations activities in the company.

(Haaga & Snåre 11 March 2015.)

As the Marketing and PR Manager Tytti Haaga has become aware of the public interest and increasing demand for sustainable practices. From the beginning of her career at Flybe Finland she has noticed the importance of environmental sustainability; from her point of view there is a huge potential in bringing forward environmental aspects of Flybe Finland's operations, both in external as well as in internal communication. (Haaga 11 March 2015.)

Ann-Sofie Snåre is the project manager for Flight Efficiency Programme (FEP), a programme intended for developing Flybe Finland's flight operations in a more cost-efficient and environmentally sustainable manner. She is also a member of "Liikenteen Ympäristöasiain Neuvottelukunta", an advisory board appointed by the Finnish Ministry of Transport and Communications. The purpose of this advisory board is to discuss the environmental issues related to transportation, in cooperation with both governing bodies as well as various interest groups from different sectors within the Finnish transportation industry.

(Snåre 11 March 2015.)

3.3.2 Content analysis

The use of content analysis as a research technique requires access to company documents, brochures, reports or other available data. The purpose of this technique is to examine contents of documents and draw conclusions based on the findings. (Altinay & Paraskevas, 2008, 131.) Content analysis is often used as a complementary research method since it is not as time-consuming as many other research techniques. It is also a rather cost-efficient method for conducting research, since content analysis does not usually require a big budget on itself.

(Altinay & Paraskevas, 2008, 127-128.)

The documents studied might have originally been created for completely different purposes and therefore they might not hold the answers for the research questions - due to not being in line with the focus of the research. That is why this research technique requires precision in the data analysis process: the available data needs to be carefully analysed in order to discern relevant information.

(Altinay & Paraskevas, 2008, 127-128.)

Even though many researches include the analysis of photographic material such as images presented in brochures, content analysis can also be formed based on solely textual material. The contents of the documents need to be carefully studied in order to depict emerging trends, ideas or frequently discussed topics. (Finn, Elliott-White & Walton, 2000, 141-142.) In this research process only textual material was studied for research purposes. The main sources of information were issues of a publication for all case company's employees called Flybe Finland News as well as the company intranet, namely Finntra. The frequency and visibility of topics regarding sustainability was observed from both sources.

Even though content analysis can be viewed as a great tool for gaining information regarding a certain research topic, the author of this report considered it to be too insufficient of a technique to be used alone in this particular research. However, content analysis seemed like a good complementary research method for this particular research.

The utilization of readily available data resulted in a better understanding of the case company operations, which in turn helped the author of this report to address certain important themes emerging from the content analysis to be researched even further. Since these emerging issues were obviously important, they were later on included in the topics to be discussed in the interview in order to build a more reliable and valid case study. For example three interview questions about Flight Efficiency Programme (FEP) were formulated based on the frequency and visibility of related articles.

For the purposes of qualitative research the greatest disadvantage of content analysis seems to be the inconvenience of accessing causal relationships and the inability to ask supplementary questions regarding the topic. (Altinay & Paraskevas, 2008, 127-128.) Because of this also an interview was chosen to be held in order to gain more in-depth information regarding the topic at hand.

3.4 Data analysis

Altinay and Paraskevas (2008, 167) describe qualitative data analysis as a “conceptual interpretation of the dataset as a whole, using specific analytic strategies to convert the raw data into a logical description and explanation of the phenomenon under study”. In other words, data analysis demands a description of the research topic that is influenced by the data collected during the research process. In order to accomplish that, own interpretations need to be made based on the data analysed.

There are two types of approaches for analysing qualitative data: deductive (also referred to as theory-driven) and inductive approach (Altinay & Paraskevas, 2008, 168). In this research both approaches were used in order to benefit from advantages of both techniques - as well as to overcome their disadvantages.

Deductive (theory-based) approach to data analysis refers to emphasizing the key themes that have emerged from the literature review and conceptual framework during the analysis. This allows allocating pieces of data to smaller groups and acknowledging issues that have surfaced from the framework. The usage of deductive approach ensures that the

most important themes are included in the analysis; this approach enables surfacing of themes that might not surface from the inductive approach.

(Altinay & Paraskevas, 2008, 168.)

However, while theory-driven approach has many advantages, inductive approach offers also great possibilities for researchers. This approach demands an open mind and it does not limit the themes that might emerge from the data - often resulting in generating new knowledge. Inductive approach prevents the researcher from taking a biased view on the matters, allowing the significant issues to be identified from all types of sources.

(Altinay & Paraskevas, 2008, 170.)

While the interview questions were, to a great extent, based on the issues that arose from the literature review, applying the inductive approach in the data analysis process ensures that also any new information emerging from the interview will be included in the results of the research.

3.5 Reliability and validity

The credibility of any research is much determined by its reliability and validity. Reliability refers to the extent to which the data collection methods result in consistent data and findings; whether others studying the same subject would end up with similar conclusions.

The validity of a research is measured by the truthfulness of the results: has the study succeeded in measuring what it is supposed to?

(Altinay & Paraskevas, 2008, 130.)

Altinay and Paraskevas (2008, 130) mention usage of multiple sources of evidence as one of the main attributes contributing to the reliability and validity of a research. This research is composed of a combination of two research techniques: both content analysis and an interview were made in order to increase the credibility of the findings. The interview questions were carefully designed in order to gain valuable and relevant data for the research purposes. Interviewing two employees of the company also contributed to the validity of the research; by doing so the data gained from the interview is most likely going to be more informative and reliable.

3.6 Timetable

The whole research process was expected to be carried out within an approximate time period of six months, from the end of October 2014 to April 2015. This subchapter will

provide further explanation of the timeframe planned for the implementation of the thesis process month by month.

October 2014

The research topic, research questions and preliminary contents of the thesis were designed on October 2014. The author contacted Flybe Finland's representatives in order to secure an interview for the beginning of the next year. After receiving an affirmative answer, the topic analysis for the thesis was written and handed in on 24th of October 2014.

November 2014

The author of this report was notified of the approval of the topic analysis in the beginning of November, and the first thesis seminar was held on 13th of November at the Porvoo Campus. The author started working on the theoretical framework, research approach and the research methods to be used in this research.

December 2014

The second thesis seminar was agreed on to be held on 8th of December. The author of this report continued working with the theoretical framework as well as methodology in December, further extending the knowledge base written earlier.

January 2015

On January the author of this report started gathering background information about the case company and started the process of conducting a content analysis. The topics to be discussed in the interview were decided on based on the main themes emerging from the literature review. A couple of discussion points were included in the interview topics based on the content analysis of company publications, as well. The interview questions were formulated in late January.

February 2015

The author of this report started the process of securing an interview date with the interviewees in the beginning of February. A suitable timeframe for all of the participants to attend the interview was found; the interview would be conducted in the beginning of March. The interview questions were sent to the interviewees beforehand in order to give them time to familiarize themselves with the interview topics.

The third thesis seminar was held on 23rd of February at the Porvoo Campus. The author of this report started to revise her text based on the feedback received at the seminar.

March 2015

The interview with Flybe's representatives was held on 11th of March. After this the data gained from the interview was analysed. Based on the data analysis the final results of the research process were combined and the overall conclusions were written.

April - May 2015

This thesis was revised and finalized during spring 2015.

4 Flybe Finland Oy

At the time this research was conducted, Flybe Finland Oy was an airline jointly owned by Flybe Plc, based in the United Kingdom (with a share of 60%), and Finnair Oyj (owning 40% of the shares). The company started its operations in year 1993 as Finncomm Airlines, later on changing its brand and service concept in 2011 as a result of the change of ownership in the company.

(Finntra 2015a.)

Flybe Finland's operations are based at the Helsinki-Vantaa airport and it employs approximately 700 people. The company operates nine routes of their own in the Nordic region and Baltic countries - and it also operates a significant amount of Finnair's domestic as well as European routes. At the moment Flybe Finland operates a livery of 26 aircraft, out of which 12 are ATR 72, 2 Embraer 170 and 12 Embraer 190 aircraft.

(Helsingin Sanomat 2015; Finntra 2015a)

Flybe Finland's own domestic routes include flights from Helsinki to Jyväskylä, Kajaani, Kemi-Tornio, Kokkola-Pietarsaari, Mariehamn as well as seasonal flights to Enontekiö. There are also scheduled flights between Helsinki and the city of Tartu in Estonia, Norrköping in Sweden as well as a seasonal route to Visby, Sweden. These routes are all flown with ATR 72 aircraft.

(Flybe 2015.)

Flybe Finland has three ticket types available for their flights, namely Just Fly, Get More and All In. Just Fly is the least expensive ticket type available: the basic fare includes a flight ticket with a cabin baggage allowance of 8kg. However, optional extra services such as checked baggage, on-board snacks and ticket changes are available for a fee. A standard Get More ticket includes both hand luggage and a 20kg hold luggage allowance, as well as advanced seat selection and it permits changes in flight tickets. As the name suggests, All In is the ticket type that offers the widest range of services. Besides the standard services All In provides access to airport lounges, a complimentary snack on-board and a bigger allowance for hold luggage. These types of tickets are also fully changeable.

(Flybe 2013.)

Flybe Finland has been operating Finnair's Embraer aircraft since October 2012, covering roughly one third of Finnair's European traffic. The flights are operated as contract flights;

while Flybe Finland is the operator of these flights, Finnair remains commercially responsible for managing as well as marketing and selling them.

(Finnair 2012a.)

In December 2014 Flybe Ltd announced intentions of selling its 60% share of the company. Already in January 2015 Finnair informed about the new intended shareholders of the company, namely StaffPoint Holding and G.W. Sohlberg. This would result in StaffPoint holding a share of 45% of the company, Finnair still owning 40% and G.W. Sohlberg having a share of 15%. (Helsingin Sanomat 2015.) Furthermore, on March 31st Flybe Finland got temporarily transferred to Finnair's sole ownership. However, Finnair is planning to further carry on the ownership discussions with StaffPoint and Holding and G.W. Sohlberg in the future. (Finnair 2015b.)

Already in the beginning of March 2015 Finnair announced that all Flybe Finland's flights previously flown at their own commercial risk will have Finnair's flight numbers in the future. As of 1st of May 2015 these routes will be operated as contract flights, resulting in all Flybe Finland's air traffic to be flown as a part of Finnair's contract flying arrangements. (Finnair 2015a.)

5 Sustainability of Flybe Finland's operations

This chapter will discuss the key findings made during this research process. The most important issues related to sustainability of Flybe Finland's operations will be studied, addressing the environmental, economic as well as social aspects of sustainability. The following subchapters will further discuss Flybe Finland's flight operations and different practices they have implemented in order to be able to operate in a more sustainable manner.

5.1 Environmental sustainability

Environmental sustainability has been regarded as an important matter at Flybe Finland: it is one of company's core values - alongside safety, reliability and punctuality, excellent customer service, comfort of travel and economic efficiency. Ensuring the environmental sustainability of company's flight operations has been regarded as a matter of uttermost importance, and in fact it does also go hand in hand with the aim of being economically efficient: savings made in terms of fuel consumption tend to reduce emissions produced, as well as save company's monetary resources.

(Snåre 11 March 2015.)

Flybe Finland has a rather ideal fleet for operating their short-haul feeder traffic (Snåre 11 March 2015.). Flybe Finland operates a fleet of total 26 aircraft; 12 ATR 72-500 turbo-props, 2 Embraer 170 and 12 Embraer 190 aircraft. All company's own scheduled routes are operated with the ATR 72 airplanes - manufactured by a French company ATR claiming to be the "environmental leader" in the airline industry when it comes to operating short-haul routes.

(ATR Aircraft 2014, 4; Snåre 11 March 2011.)

The ATR airplanes utilize advanced technologies such as light structure and advanced aerodynamics in order to be able to perform cost-efficiently. ATR 72 aircraft utilize modern turboprop engines that burn 40% less fuel compared to a jet equipped with a turbofan engine. It is estimated that in short-haul distances it costs 1/3 less to operate these turboprop planes in comparison to jet aircraft of same size. This naturally results in less fuel costs for the operating carrier as well as more environmentally friendly flight operations.

(ATR Aircraft 2014, 4-5.)

While all aircraft produce emissions through the combustion of kerosene in the airplanes' engines, the aircraft manufacturer ATR claims that their airplanes leave the ozone layer relatively unaffected. This is due to the fact that ATR's fly at relatively low cruising altitudes and therefore the manufacturer claims that their contribution to the pollution of the

upper atmosphere is also less significant than it is for most of the jet planes utilizing higher cruising altitudes.

(ATR Aircraft 2014, 6)

While Flybe Finland's ATR aircraft are usually serving rather short flight routes, the longer distances are mostly flown with Embraers. While jet aircraft generally consume more fuel compared to turboprop aircraft, jets are able to fly at higher cruising altitudes and with higher speed - making them more efficient on longer routes. While Flybe Finland is able to operate flights with both aircraft types, it makes the fleet rather ideal for their short- and medium-haul traffic: operating both turboprop and jet aircraft enables optimizing their resources in a more efficient manner.

(Snåre 11 March 2015.)

Helsinki Airport is the hub of Flybe Finland's own flight operations, and almost all turnarounds with the ATR aircraft are done at smaller provincial airports. At some of these airports Flybe Finland is the only operating airline, which enables short scheduled turnaround times. Air traffic congestions are rather unheard of at these small regional airports, which means that the aircraft do not need to wait on the taxiway for long in order to get the permission to take-off - or wait for a landing spot for extended periods of time. Taxi distances are also generally shorter at smaller airports, often comprising of only one single runway and a terminal, compared to busier airports with multiple runways. Shorter taxi distances and shorter wait times minimize the time airplanes spend with their engines running, naturally leading to both lower fuel consumption as well as less emissions produced.

(Snåre 11 March 2015.)

One of the most notable aspects regarding the environmental sustainability of Flybe Finland's operations is the Flight Efficiency Programme (FEP), which was started in January 2013 (Snåre 11 March 2015.). The aim of this programme is to strive for more environmentally friendly flight operations, as well as cost reductions associated with fuel consumption. Flight Efficiency Programme is integrated as part of all company's flight operations; however, safety is always prioritized over any other aspects in company's flight operations.

(Fintra 2015b; Flybe Finland News 2013, 23)

All pilots employed by Flybe Finland are trained in fuel-efficiency matters. The Flight Efficiency Programme provides knowledge and tools for the pilots to optimize flight operations in order to operate each flight with environmental awareness, as efficiently as feasi-

ble taking into consideration the prevailing conditions. While safety is always the top priority regarding all company's flight operations, environmental aspects are also to be taken into account when it is safe and possible to do so. The fundamentals of fuel-efficient flying are also integrated in company trainings. (Finntra 2015b; Flybe Finland News, 2013, 23; Flybe Finland News, 2014b, 37.) One of the most significant tools provided for pilots to optimize their flight profiles is the "Flight Optimizer" software for iOS platform. It helps pilots to optimize their flight profiles: it determines the most optimal angle and speed of climb, the flight level flown at the cruising altitude as well as the speed and angle of descent. An optimized flight profile can potentially have a significant influence on the aircrafts' fuel consumption, thus decreasing the negative environmental impact of the flight. (Snåre 11 March 2015.)

Flight Efficiency Programme is a constantly on-going process that requires monitoring and constant improvement of flight operations. The programme performance is monitored and presented in Flybe Finland's monthly management meetings. Company's flight operations are then continuously further developed by reacting to the results gained from earlier performance - resulting in constant effort to develop flight operations according to the principles of sustainable development.

(Finntra 2015b; Snåre 11 March 2015.)

Flight Efficiency Programme has been clearly visible since its launching: for example the company staff newsletter, Flybe Finland News, has included various articles regarding the programme. Nearly all of the issues published within the past two years had discussed topics or trends related to the Flight Efficiency Programme. There are also web pages dedicated for the Flight Efficiency Programme in the company intranet (Finntra). The aim of these pages is to provide Flybe Finland's employees a platform with the possibility to share their knowledge and information regarding various efficiency and environmental issues related to flight operations. On these pages information, statistics, links and other material regarding FEP are displayed and the employees are encouraged to follow and comment on the articles and news presented. However, according to Snåre (11 March 2015.) the main challenge regarding these web pages has been the rather low number of frequent visitors: there is a certain group of employees that is really enthusiastic and motivated to follow the information and news presented on the pages. However, the most fundamental future challenge is clearly to find ways to attract more pilots to visit the FEP web pages.

(Snåre 11 March 2015.)

Another possible future vision is to extend the Flight Efficiency Programme to concern all company's employees. While the programme is at the time being concentrating on efficient flight procedures and pilots' environmental awareness, there is some potential in incorporating cabin crew and ground personnel to the process, as well. By improving turn-around efficiency at destination airports valuable time could be saved - allowing pilots to perform the flight at lower speed, thus improving fuel efficiency.

(Snåre 11 March 2015.)

Flybe Finland has also recently introduced route- and city-specific taxi fuel quantities. The standard quantities of taxi fuel carried now vary depending on the destination airport: aircraft that are destined to less crowded smaller airports carry less fuel reserved for taxiing. This reduces the amount of extra fuel carried on board, thus decreasing fuel consumption of a given flight. Overall, improved fuel planning integrated in company's flight planning system can potentially result in significant savings made. Flybe Finland utilizes a flight planning system that is able to plan optimized and accurate flight plans. The system is capable of choosing the most optimal route for any given day, enabling improved fuel planning.

(Snåre 11 March 2015.)

Flybe Finland's load control instructions for the ground personnel determine that, whenever possible and safe, the aircraft should be loaded so that the centre of gravity is slightly more in the rear part of the plane, since this reduces fuel consumption. Another practice regarding more fuel efficient operations is the allowance of single-engine taxiing after landing. This presents a slight savings potential and it is used in company's flight operations whenever suitable.

(Snåre 11 March 2015.)

In Embraer operations the flight crew is using solely electronic flight charts, as well as mostly electronic operations manuals. According to Snåre (11 March 2015.) the same principle will be applied in the ATR operations in the future, as well: while the manuals are for the most part electronic already, the old paper charts still used in company's ATR's will be replaced by electronic charts during this year. This results in savings on paper, shipping costs as well as less human resources needed for managing and revising the charts. The excessive weight carried in the cockpit in the form of old-fashioned paper manuals will be reduced, thus contributing to the savings to be made on fuel consumption.

(Snåre 11 March 2015.)

Flight Efficiency Programme has already succeeded in improving the fuel efficiency on Flybe Finland's flight operations. During the one year monitoring period the fuel efficiency has been improved by 0.6 % per year. While fuel is usually the largest single cost element of any airline, even small reductions on fuel consumption can lead to great savings. On a monthly basis these actual savings made have been even tens of thousands in euros for Flybe Finland. Besides the monetary savings achieved, this has naturally had a positive impact on the environmental impacts caused by company's flight operations, as well. (Snåre 11 March 2015.)

While fuel consumption is undeniably the most significant issue affecting the environmental sustainability of an airline, there are naturally other aspects that can be examined, as well. Flybe Finland has implemented noise abatement procedures in order to reduce the noise pollution created by their flight operations. Furthermore, an effort is made to take environmental aspects into consideration when for example purchasing office equipment or the materials used for company's inflight magazines. Flybe Finland also recycles cans and bottles used in in-flight service, as well as emphasizes the usage of renewable packaging materials.

(Haaga & Snåre 11 March 2015.)

The ability to perform in a more environmentally sustainable way can work as a competitive advantage for an airline: the ability to communicate the environmental friendliness of company's flight operations could potentially have a huge positive impact on the perceived image of the company (Page, 2009, 300-301.). Environmental awareness is an increasing trend in Finland, and the environmental aspects have become more and more important for the airline's customers, as well. The ability to minimize the negative environmental impacts associated with air travel also improves the competitiveness of an airline. The commercial potential of highlighting company's efforts towards developing more sustainable air traffic operations has already been noticed at Flybe Finland. However, while the airline has become familiar with constant change during these past months, the commercialization of for example the improvements achieved by introducing the Flight Efficiency Programme in company operations has not yet been widely emphasized in public relations.

(Haaga & Snåre 11 March 2015.)

However, environmental sustainability can still play an important role in airline's performance: environmental aspects could even be a part of the selection criteria in the tendering process for charter flights. Even though the environmental aspects are rarely as important as the operating expenses when it comes to decision-making, these themes are

still often addressed in the tendering process. (Haaga & Snåre 11 March 2015.) However, when it comes to sustainability, Flybe Finland does definitely have the competitive advantage over many other airlines: their ATR fleet provides the opportunity to fly short-haul routes fuel-efficiently - resulting in more cost-efficient as well as more environmentally friendly flights.

(Snåre 11 March 2015.)

Flybe Finland appears to embrace the fundamentals of environmentally sustainable aviation development, most notably through improvements made in terms of fuel efficiency and optimized flight operations. They are committed to constant monitoring of their operations in order to reduce emissions and improve their environmental performance.

5.2 Economic sustainability

Profitability is usually the principal object of any privately owned airline. However, high capital and operating costs are characteristic of the aviation market - a business where not only internal factors affect the profitability and economic sustainability of an airline. Being able to sustain the state of profitability is nowadays of major concern for many air traffic operators across the world.

(Page, 2009, 83.)

According to Haaga and Snåre (11 March 2015.) one of the keys to developing Flybe Finland's operations in a more economically sustainable manner is the continuous strive for development. In order to improve the economic competitiveness of the company, the whole organization needs to be committed to this development. Fierce competition is one of the most fundamental characteristics of the worldwide aviation industry, which forces airlines to react promptly to any industry changes. The emergence of low cost airlines has stressed the importance of reducing cost levels across the globe. However, many so called legacy airlines have also succeeded in lowering their operating expenses, thus being able to stay profitable through these turbulent times. However, for Flybe Finland the major competition within domestic routes lies in rail and road traffic. This naturally stresses the ability to improve company's economic competitiveness, as well as the vital importance of communicating the environmental sustainability of company's flight operations, in order to attract customers that would alternatively travel to their destinations either by rail or road.

(Snåre 11 March 2015.)

It has become rather clear during the past couple of years that the air traffic operations within Finland and the Nordic region haven't been profitable; the current economic state of

Flybe Finland as a company is agreeably challenging. However, Haaga and Snåre (11 March 2015.) are optimistic about the effects that the upcoming changes in the company's air traffic operations will have regarding the economic state of Flybe Finland. As of 1st of May 2015 all company's air traffic, including the routes previously flown at their own commercial risk, will be flown under Finnair's contract flying agreements. Haaga (11 March 2015.) sees this as an invaluable chance to develop company's operations in a more economically sustainable way. The key to future success lies on providing the customer, Finnair, with the best possible cost structure for operating this type of air traffic. (Haaga & Snåre 11 March 2015.)

Effective management of Flybe Finland's cost structure will definitely be of vital importance in the future. Cost-efficiency, together with maintaining safe flight operations, is probably one of the most fundamental aspects affecting the state of company's economic sustainability. The key to obtaining the best possible cost structure lies on effective management of resources, including for example the efficient utilization of company's fleet and staff, as well as making good use of the new technologies developed in the field. (Snåre 11 March 2015.)

While the present economic state of Flybe Finland seems to be extremely challenging, the new contract flying agreements tied with Finnair could potentially have the power needed to turn the operations profitable again. However, this requires constant monitoring of company's operations in order to be able to provide the customer, Finnair, the best possible cost structure for operating a significant part of their short- and medium-haul traffic.

5.3 Social sustainability

According to Janic (2007, 45) the social performance of an airline can be measured in terms of its direct and indirect impacts. The direct impact refers to the employment of staff: the income and jobs created by the airline (Janic, 2007, 45.) During the past couple of years Flybe Finland has become a significant employer in the Finnish aviation industry: there are currently over 700 people employed by Flybe Finland. (Haaga 11 March 2015.)

While outsourcing to countries with lower cost levels has recently become a rather common practice within the aviation industry worldwide, the ability to employ Finnish workforce has been important for Flybe Finland. The company has also mainly favoured direct employment instead of hiring their personnel from staff leasing companies. Furthermore, as the primary markets of the company are located within Finland, it has been regarded

as a matter of great importance to employ people with proficiency in the Finnish language; Finnish customers have traditionally appreciated the possibility of getting service in their mother tongue. The existence of a common language has also been seen as an important factor in sustaining the sense of community among the company's employees.
(Haaga & Snåre 11 March 2015.)

While airlines are often significant employers in their own rights, their employment effect - as well as the resulting positive social contributions - tend to be even more widespread. The sole existence of air traffic requires a large number of personnel employed for example at the airport premises. These people are thus indirectly employed by the airline.
(Janic, 2007, 45.) Flybe Finland's operations are therefore also supporting employment at various regional airports, indirectly contributing to the public welfare.

Flybe Finland's own route network is mainly comprised of small regional airports. According to Gross and Schröder (2007, 199.) this promotes regional development as well as creates significant social benefits in these areas. Regular flight connections are bound to create wealth and economic benefits for the destination regions. Furthermore, air traffic enables the growth of tourism near many regional airports.
(Gross & Schröder, 2007, 199.)

The network of regular air traffic is a fundamental part of infrastructure in a country with such great distances as Finland. Reliable flight connections could be seen as a basic requirement for many businesses across the country, enabling industrial activities in various cities. Therefore the indirect employment effect of Flybe Finland's operations can reach as far as providing employment opportunities in many Finnish industrial cities.
(Snåre 11 March 2015.)

One example of such a city benefiting from Flybe Finland's regular flight connections is Kemi. Almost 10 per cent of Finnish export volume comes from the areas near Kemi-Tornio Airport, and there are many large enterprises in the region that are directly dependent on frequent flight connections. Flybe Finland has been trying to do everything in their power to ensure that these flight connections would be maintained in the future.
(Haaga 11 March 2015.)

The needs of different cities and provinces have been taken into consideration already in the planning process of the flight schedules. An effort was made to plan the flight schedules in a way that would serve the interests of both business and leisure travellers: both point-to-point passengers as well as passengers with connecting flights from Helsinki Air-

port. It has been of interest to Flybe Finland to establish good connections with the large enterprises, decision-makers as well as tour operators operating in the vicinity of regional airports. The company has also held various events at the airports in order to meet their customers - and the approachability of company employees has already received praise among them. As Flybe Finland is still a relatively small organization, the customers know that they can count on the feedback given being forwarded.

(Haaga 11 March 2015.)

However, while Flybe Finland's route network will be shortly administrated and marketed by Finnair, the planning and management of these regional flight routes will soon be Finnair's responsibility. However, Haaga and Snåre (11 March 2015.) hope that the regular flight connections to smaller regional airports within Finland would be further maintained, alongside with the active connections with the decision-makers and enterprises of the region.

It can be concluded that Flybe Finland has already become a rather significant employer within the Finnish aviation industry. Besides the 700 people directly employed in the company, the existence of its own route network enables indirect employment at smaller regional airports, as well. Regular air traffic network can be seen as a fundamental part of the Finnish infrastructure, thus contributing positively to the industrial activities - and jobs created - in various cities across the country.

6 Conclusion

The aim of this research was to build a comprehensive picture of the current state of sustainability in the airline industry. The worldwide demand for air transportation has been estimated to double during the next two decades, and given this significant industry wide growth, airlines are under constant pressure to implement more sustainable practices as part of their flight operations. This research aimed at finding out what kind of practices there are that airlines can implement in order to operate in a more sustainable way. Furthermore, this study focused on finding out how the case company, namely Flybe Finland, is managing the aspects of environmental, economic and social sustainability.

The results of this thesis indicate that Flybe Finland appears to embrace the fundamentals of sustainable aviation development, most notably through improvements they have made in terms of fuel efficiency and optimized flight operations. They are committed to constant monitoring of their operations in order to reduce emissions and improve their environmental, economic and social performance.

As a personal learning experience this research process can be regarded as a highly successful one. This study provided the author with an insight into conducting qualitative research and brought into focus different aspects to be considered while carrying out an interview. Never before had the author of this thesis prepared and carried out an individual research of such scale, and the process proved to be an inspiring experience.

All research processes require time management skills - and this thesis process was definitely no exception. During this research process the author of this report was, besides writing her Bachelor's thesis, both working as well as studying in order to collect the last credits missing from her Degree Programme. Furthermore, the irregular diurnal rhythm of a shift worker brought its own challenges, since permanent study patterns were practically impossible to establish for the duration of the research process. This definitely put great emphasis on flexibility as well as brought into focus the crucial importance of effective time management. However, despite the rather tight schedule planned for the research process, the thesis progressed steadily and was finalized within the planned time period.

Genuine interest in the research topic worked as a great source of motivation throughout the entire research process. As the state of sustainability within the aviation industry is an enormously wide and complex topic, there would have been numerous interesting aspects to study. However, given the time and resources allocated for this thesis process, the au-

thor of this report decided to concentrate solely on constructing a compact overall picture of aviation sustainability. This was done by conducting a case study of one airline - rather than trying to comprehensively cover all of the aspects related to sustainability in the aviation industry.

The author of this report would be delighted if this research process would inspire other aviation enthusiasts to further research different aspects of aviation sustainability. This wide and complex topic would definitely provide many other interesting viewpoints to be further examined, such as the marketing value that sustainable flight operations create for an airline, or the future of aviation sustainability: how will the airline industry handle sustainability issues in the future?

By the time of the publication of this thesis the author of this report had already had a two years' experience as an employee in the aviation industry. The overall understanding of airline processes proved to be highly beneficial regarding the planning and implementation stages of this research. The research process was rather smooth one - despite the occasional drawbacks such as the interview being postponed to a later date - since the aim and limitations of the research were clear right from the start. This research process succeeded in bringing into focus new information regarding the various aspects affecting aviation sustainability.

Constant change is definitely one of the main characteristics of aviation industry worldwide. It took half a year to carry out this research process - and even within such a short period of time significant news about upcoming changes in the ownership structure of the case company surfaced. The main shareholder of the company announced its intentions of selling its 60 per cent share of the company - followed by the news of all company's flight routes previously flown at their own risk to be operated as a part of contract flying arrangements.

These changes will naturally affect the sustainability of company operations in the long run. Therefore it is possible that the results of this research might not hold true anymore once the planned changes in the company have come to a completion. Keeping that in mind, the author of this report is still confident that this report has succeeded in portraying the current state of sustainability in the case company - for the time being.

References

Air Transport Action Group (ATAG) 2014. Aviation Benefits Beyond Borders 2014 Report. URL:

https://www.aviationbenefits.org/media/26780/ATAG_AviationBenefits2014_FULL_HighRes.pdf Accessed: 8 March 2015.

Altinay, L & Paraskevas, A. 2008. Planning Research in Hospitality and Tourism. Elsevier Ltd. Oxford.

ATR Aircraft 2014. Environment Leaflet 2014: The Green Power of Tomorrow. URL:

https://www.atraircraft.com/userfiles/files/brochure_environment_2014_24.pdf Accessed: 6 February 2015.

Gross, S & Schröder, A. 2007. Handbook of Low Cost Airlines: Strategies, Business Processes and Market Environment.

Finn M, Elliott-White M & Walton, M. 2000. Tourism and Leisure Research Methods: Data Collection, Analysis and Interpretation. Pearson Education Limited. Essex.

Finnair 2012. Media. Tiedotteet. Pörssitiedote 12.10.2012: Finnair ja Flybe solmivat sitovan sopimuksen Finnairin Embraer-liikenteen siirtymisestä Flyben operoitavaksi. URL: https://www.finnairgroup.com/media/media_7.html?Id=rss_645546.html Accessed: 7 March 2015.

Finnair 2015a. Media. Tiedotteet. Tiedote 5.3.2015: Flybe Finlandin lennot jatkossa Finnairin lennonnumerolle. URL: https://www.finnairgroup.com/media/media_7.html?Id=xml_1832922.html Accessed: 7 March 2015.

Finnair 2015b. Media. Tiedotteet. Tiedote 31.3.2015. Flybe Nordic väliaikaisesti Finnairin omistukseen - omistuskeskustelut Staffpointin ja GWS:n kanssa jatkuvat. URL: https://www.finnairgroup.com/media/media_7.html?Id=xml_1854349.html Accessed: 13 April 2015

Finntra 2015a. Yhtiö. Flybe Finland. Intranet. Accessed: 14 January 2015.

Finntra 2015b. Yhtiö. Operations. Flight Efficiency Programme. Intranet.
Accessed: 11 January 2015.

Flybe 2013. Tietoa. Lennä Flybella. URL: https://fi.flybe.com/flying_flybe/ Accessed: 24 February 2015.

Flybe 2015. Flyben reittikartta. URL: <https://fi.flybe.com/route-map/> Accessed: 24 February 2015.

Flybe Finland News. 2013. Flight Efficiency Programme for our economy and environment. FF News Fall 2013, 23.

Flybe Finland News 2014a. Lentokoneen käännön optimointi. FF News Winter 2014, 25.

Flybe Finland News, 2014b. Think Green. Projektipäällikön terveiset. FF News Spring 2014, 37.

Goodson, L & Phillimore, J. 2004. Qualitative Research in Tourism: Ontologies, epistemologies and methodologies. Routledge. London.

Griffin, T & Harris, R & Williams, P. 2002. Sustainable Tourism: A Global Perspective. Elsevier Ltd. Bodmin.

Haaga, T. 11 March 2015. Marketing and PR Manager. Flybe Finland Oy. Interview. Helsinki Airport.

Helsingin Sanomat 2015. Tuomas Niskakangas. Henkilöstövuokrausyhtiö osti ison osan Flybe Nordic -lentoyhtiöstä.

URL: <http://www.hs.fi/talous/a1420598432844> Accessed: 14 January 2015

International Air Transport Association (IATA) 2014. Press Release No.: 57: New IATA Passenger Forecast Reveals Fast-Growing Markets of the Future. URL: <http://www.iata.org/pressroom/pr/Pages/2014-10-16-01.aspx>. Accessed: 19 November 2014.

Janic, M. 2007. The sustainability of air transportation: a quantitative analysis and assessment. Ashgate. Bodmin, Cornwall.

Mason, P. 2008. *Tourism impacts, planning and management*. 2nd ed. Elsevier Ltd.

Page, S. 2009. *Transport and tourism: Global perspectives*. 3rd ed. Pearson Education Limited. Harlow, England.

Sharpley, R. 2009. *Tourism Development and the Environment: Beyond Sustainability?* Earthscan. London.

Snåre, A-S. 11 March 2015. Head of Operations Support. Flybe Finland Oy. Interview. Helsinki Airport.

Swarbrooke, J. 2002. *Sustainable Tourism Management*. CABI Publishing. London.

Weaver, D. 2006. *Sustainable Tourism: Theory and Practice*. Elsevier Ltd. Oxford.

World Tourism Organization. 2007. *A Practical Guide to Tourism Destination Management*. World Tourism Organization. Madrid.

Yin, R. 2009. *Case Study Research: Design and Methods*. 4th ed. SAGE Publications. Thousand Oaks, California.

Attachments

Attachment 1. Interview questions in English

Background information

1. Could you please briefly introduce yourself and describe your position in the organization?
2. What are your main responsibilities in your current post?
3. How often do you deal with issues regarding sustainable development on behalf of your position?

Environmental sustainability

4. How important is it for the company to ensure environmental friendliness of its flight operations?
5. What kinds of opportunities do the types of aircraft operated present regarding environmentally friendly operations?
6. What kind of challenges does operating this kind of fleet bring along?
7. Where did the idea for launching the Flight Efficiently Programme (FEP) come from and how has it been received?
8. What are the most important aspects of Flight Efficiency Programme regarding environmental sustainability?
9. What kind of results have there been from the Flight Efficiency Programme so far?
10. To what extent do you think the current Flybe service concept affects the environmental sustainability of flights?
11. Are there any other practices that strive for minimizing the environmental impact of company operations either in-flight or on the ground?

Economic sustainability

12. How will the economic competitiveness of the company be maintained in the future?
13. How would you describe the significance of frequent flight connections for the destinations and businesses operating in nearby areas?

Social sustainability

14. How are the needs of different provinces and destinations taken into consideration in the planning process of the route network and flight schedules?
15. How important is it for the company to employ Finnish workforce?
16. How is the wellbeing of company employees at work maintained?

Attachment 2. Interview questions in Finnish

Taustatietoja

1. Kertoisitko lyhyesti itsestäsi ja asemastasi yhtiössä?
2. Mitkä ovat tällä hetkellä tärkeimmät työtehtäväsi?
3. Kuinka usein olet tekemisissä kestävän kehityksen kanssa työsi puolesta?

Ekologinen kestävyys

4. Kuinka tärkeänä lentotoiminnan ympäristöystävällisyyttä pidetään yhtiössä?
5. Millaisia mahdollisuuksia yhtiön operoimat konetyypit tarjoavat ympäristöystävälliselle operoinnille?
6. Millaisia haasteita tämän tyyppisen laivaston operointi tuo mukanaan?
7. Mistä idea lennontoinnin tehostamisohjelmaan (FEP) on peräisin ja millaisen vastaanoton sen käyttöönotto on saanut?
8. Mitkä ovat ympäristönäkökulmasta Flight Efficiency Programme:n tärkeimmät osa-alueet?
9. Millaisia tuloksia Flight Efficiency Programme:n avulla on saavutettu tähän mennessä?
10. Kuinka paljon uskot nykyisen Flybe -brändin mukaisen palvelukonseptin vaikuttavan lentojen ekologisuuteen?
11. Onko yhtiössä käytössä muita käytäntöjä joilla pyritään minimoimaan lentotoiminnasta aiheutuvia ympäristövaikutuksia?

Taloudellinen kestävyys

12. Kuinka yhtiön taloudellista kilpailukykyä pyritään ylläpitämään tulevaisuudessa?
13. Miten kuvailisit toimivien lentoyhteyksien merkitystä maakuntien ja niiden alueella toimivien yritysten taloudelle?

Sosiaalinen kestävyys

14. Millä tavoin reittiverkoston ja aikataulujen suunnittelussa otetaan huomioon eri maakuntien ja kohteiden tarpeet?

15. Kuinka tärkeänä suomalaisen työvoiman palkkaamista pidetään yhtiössä?

16. Millaisin keinoin työntekijöiden työhyvinvointia pyritään pitämään yllä?