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## Final Thesis

# Consumer Awareness of CSR in the Aviation Industry

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**“The earth is what we all have in common”**

**Wendell Berry**

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## **ABSTRACT**

During the last few years, the attitude to be socially responsible and sustainable has grown throughout the entire world and many companies in various sectors have started to take measures to be eco-friendly towards the environment. This has strengthened consumer's behaviour and corporate social responsibility which influences the management of ethical and social effects of companies.

This dissertation focuses on corporate social responsibility (CSR) in the airline industry, a business sector which is trying to implement more and more programs to increase its level of environmental friendliness. The thesis aim is to inform on CSR in the airline industry with the scope to increase awareness on the topic, investigating to what extent are customers aware of different CSR initiatives, which initiatives passengers would rank as more/less important and effective and moreover, the possible willingness to pay higher prices to offset carbon emissions when flying.

The research adopted a study based on quantitative data through a structured survey. The collected data was analysed via using the SmartPLS program. Research findings show that consumer awareness of CSR is increasing together with the intention to behave responsibly in respect of the environment and the willingness to pay extra to fly with an airline which operates in a socially and environmentally responsible manner.



## INTRODUCTION

Awareness of the environmental impacts of human activity has increased significantly over the last 30 years. People are gaining more consciousness on the social and environmental effects of their consuming routines. There is a greater consideration of the tourism industry, which, on one hand, potentially brings social and economic benefits to destinations, while, on the other hand, has a big negative environmental impact on destinations. Within the travel business, the airline industry is important because of its significant impact on the environment and society. Generally, companies' directors were used to guide the enterprise towards profitability and economic value creation. However, today, corporations have obligations to respect the environment and this goes beyond generating profits.

It is believed that profits do not increase with CSR programs, they may instead decrease (Tran, 2015). Recent studies have shown that CSR increase businesses' efficiency, helps them to deal with social tensions and also to have a better image. Customers usually have two dimensions in their purchasing decisions, price and quality. The airline industry is closely related with these characteristics because of price elasticity (Richard, 2009). Today corporate social responsibility is one of the most important sources of competitive advantage in the airline industry. The role of CSR is to enhance the sustainability of the airline industry by mitigating air pollution, noise, CO2 emissions and aviation's labour practice which have adverse effects on the environment.

This research will concentrate on one critical topic for sustainability initiatives aimed at improving our future, Corporate Social Responsibility (CSR) in the airline industry. CSR is currently growing among companies and it involves the willingness of enterprises to effectively manage issues of social and ethical impact within them and in the environment. The attention to the territory and local communities through the reduction of the environmental impact is among the objectives of corporate social responsibility.

As I'm a frequent traveller, I decided to focus on the airline industry raising awareness on responsible actions that airline companies are taking and driving people to take more responsible decisions when travelling by plane. If each single individual is sensitized, the whole community would benefit from this and the planet would be safer.

The research will be divided in two parts. First, the theoretical part will give the reader an overall idea of CSR and its principles, after that, the global situation of the aviation sector will be described together with the CSR actions which the airline industry is taking in order to reduce carbon emission, noise, air pollution, etc. Secondly, as the thesis aims to examine passenger responsible behaviour, a survey on consumer CSR awareness will be forwarded to business and leisure travellers and consequently analysed.

The purpose of this thesis is to provide an analysis of CSR and CSR activities in the airline industry, to study people's level of understanding of CSR in the airline industry, how CSR influences consumers behaviour and actions and to explore what CSR measures would people value as more/less effective.

The survey has been made to reach the following research questions:

*R1) Does consumer awareness of CSR initiatives makes consumers behave more responsibly?*

*R2) Does the intention to behave more responsibly increases the willingness to pay for carbon offsetting?*

# 1 CORPORATE SOCIAL RESPONSIBILITY

## 1.1 Definition of CSR

What is corporate social responsibility?

*“Social responsibility is the responsibility of an organization for the impacts of its decisions and activities on society and the environment through transparent and ethical behaviour that is consistent with sustainable development and the welfare of society; takes into account the expectations of stakeholders; is in compliance with applicable law and consistent with international norms of behaviour; and is integrated throughout the organization.”*

(Teodorescu and Lehr, 2015)

It is a long time since academics and practitioners have been trying to build a definition for a corporation to be socially responsible. In 1960, Keith Davis stated that social responsibility refers to businesses' *"decisions and actions taken for reasons at least partially beyond the firm's direct economic or technical interest."* Later, Eells and Walton (1961) argued that CSR refers to the *"problems that arise when corporate enterprise casts its shadow on the social scene, and the ethical principles that ought to govern the relationship between the corporation and society"* (Archie, 1991).

The aforementioned K. Davis in 1973 provides a new definition of CSR using as a central theme, the willingness to act in a socially responsible way, stating that: *"CSR starts when the law ends and a company cannot just perform actions of minimum social responsibilities required by law, because this would be what every good citizen would do"*.

Therefore, according to Davis, socially responsible actions must have a long-term vision in order to be transformed into benefits such as return of image, social enhancement, possession and use of proper resources to solve social problems. If on the one hand, attention to responsibility brings benefits, on the other Davis recognizes that such actions can also entail additional costs which would decrease the profit of the company with a relative loss of competitiveness and a confusion between the different objectives that the company must pursue.

The concept of Corporate Social Responsibility (CSR) arises from the awareness that the company can both aim at profit and maximizing value for shareholders, and have duties towards the society.

Today there is no uniform definition of Corporate Social Responsibility, but what we find in the Green Paper of the European Union has been widely accepted until it has been overcome with the presentation in 2011 of the Communication containing the renewed strategy by the European Union on Corporate Social Responsibility (COM (2011) 681, 2011).

In 2001, the European Union defined CSR as *"the voluntary integration of companies' social and ecological concerns in their business operations and in their interaction with their stakeholders. Being socially responsible means not only fully satisfying the applicable legal obligations, but also going beyond investing "more" in human capital, in the environment and in relations with other interested parties"* (Com 366/2001., 2001).

It therefore means that the company must constantly work to meet the increasing expectations of the innumerable internal and external stakeholders. It is configured as the set of responsibilities that the company and its management have towards the various subjects influenced by the company's operations. Cooperation is encouraged for the creation and fair distribution of the value created and to prevent negative effects on the stakeholders themselves. Due to its aims and needs a company was considered socially responsible when it invested in the values of its social and ecological commitment more than what the law specifically required.

Ten years later, the European Union simplified and broadened the definition of CSR by specifying that it is *"the responsibility of enterprises for their impacts on society"* and then exemplified it by saying that *"compliance with applicable legislation and collective agreements between social partners is a necessary precondition for meeting this responsibility. To fully meet their social responsibility, businesses need to have a process ready to integrate social, environmental, ethical, human rights and consumer concerns into their business operations and strategy in close collaboration with the respective interlocutors "*. This new definition aims to remove businesses from a subjective approach to the matter and push them towards standards promoted by international organizations such as the OECD and the UN (ibid.).

Social, economic and political changes of the recent years led business organizations to adapt to diverse situations and to support innovative behaviours with respect to the surrounding environment. In order to adapt to modernization, also entrepreneurial priorities had to change moving to a business approach aimed at responsibly care for the community. This demands a corporation's ethical view with changes in company policies, supporting activities and structures.

Corporate Social Responsibility (CSR), is a phenomenon which nowadays is spreading across many companies. It concerns the way in which these implement specific policies aimed at achieving the highest level of sustainability possible. Sustainability, in fact, is the essence of social responsibility and encapsulates various multidimensional aspects. These aspects must take in consideration the different actions done by the companies and the way in which these arrangements influence the various stakeholders' expectations and the general corporate strategy. Companies must position themselves as sustainable and responsible adapting the management and their strategic tools to the current situation. It is important to understand that CSR is an evolving concept that still does not have a general accepted definition. Usually CSR is said to be the way firms blend social, environmental and economic aspects into their values, culture, decision making, strategy and operations and, consequently, build solid practices within the firm, create wealth and improve society. CSR is gaining importance as sustainable development is emerging universally.

The value of a successful plan for corporate responsibility is the return it produces to the company. The resulting advantage is a reputational advantage which means a greater commitment of the end customer and the business partners. This also means a more general sense of trust from other customers in the business, who could be motivated to carry on other new, more socially conscious behaviours. Organizations also prefer to collaborate with stakeholders who agree to commit generally to the same code of ethics and build a "group" of socially conscious firms. On the other hand, an erroneous approach at social responsibility will result in a loss of reputational resources. This may happen, either because the CSR acts seem inconsistent and uncoordinated, or because they customize so-called greenwashing operations which describe a virtual simulated process of a world that has little social responsibility.

## 1.2 History of CSR

Due to a greatly varying history, describing and classifying CSR evolution is quite difficult. Therefore, the following paragraphs will mostly focus on the turning points of CSRs evolution rather than the whole and wide history of it.

The economist Adam Smith started in the eighteenth century exploring and defining CSR as we perceive it today. He described it as the needs and wishes of a society that could better be fulfilled in the market-place by the voluntary activity of individuals and businesses. However, due to the technological revolution, some of his original thoughts have shifted. The initial form of CSR changed as a consequence of more efficient production of services and products and salary upgrades. This led to “Social Darwinism” which combines the concept of natural selection and survival of the fittest in corporate culture. As the single enterprises became ever more powerful, the effect of the performance plans of the organization had no room for complaints about workers, the economy and the wider public (Barnett, 2009).

As a result, laws and legislation were introduced in the early twentieth century to protect consumers, workers and society. Company culture progressed gradually towards conscientious behaviour affecting the middle class and the poor one. The Sherman Antitrust Act, first introduced by the U.S. Congress in 1890, outlawed anticompetitive activities. Total corporate activities began to carry on new obligations between 1900 and 1960, including profit generating and obeying the rules. The desire to align management and shareholder rewards became a focus point due to the transition from state-controlled companies to privately held enterprises. The construction of profitable relationships between managers and shareholders were built through the identification of institutions, markets and governance structures (Schwarzkopf, 2009). Such partnerships have positively impacted the whole business operations although they are not the key to a corporation's proper functioning.

Following the civil-rights movement of the 1960s and 1970s, both consumerism and environmentalism had a broad influence on CSR. The overall notion of society that pressured big corporations into more CSR actions was that great power brought great responsiveness. CSR was significantly influenced by regulatory requirements imposed on workplace compensation, public health, worker protection, the environment and higher societal norms.

Companies which operate in the EU are actually subjected to several environmental regulations, especially in the sustainability and recycling field (Delbard, 2008). Below are described some recent legislations include environmental protection, responsible waste disposal, the end-of-life vehicles, ESG reporting, etc.

### **Directive 2008/98/EC on waste**

Directive 2008/98/EC on waste and repealing certain Directives, for example, establishes a legal framework for treating waste in the EU (European Council, 2013). Proper waste management, recovery and recycling techniques are required to protect the environment and human health. The directive requires the competent national authorities to establish waste-management plans and waste-prevention programmes according to the waste hierarchy set by the directive. The hierarchy includes:

- Prevention
- Reuse
- Recycling
- Recovery for other purposes, such as energy
- Disposal

The aforementioned Directive has been amended by Directive (EU) 2018/851 to set the minimum operating requirements for extended producer-responsibility schemes. This may also include corporate accountability and an obligation to contribute to the reduction of waste and to products' reusability and recyclability.

### **Directive 2014/95/EU on non-financial reporting**

The way in which large companies operate and manage social and environmental challenges must be disclosed in order to help investors, customers, policy makers and other stakeholders evaluate the companies' non-financial performance. The EU Directive 2014/95/EU – non-financial reporting directive (NFRD) (European Council, 2014), implies that companies must publish reports on the policies they execute on the following issues:

- Environmental protection
- Social responsibility and employees' treatment
- Humans rights' respect
- Anti-corruption and bribery
- Diversity on company boards (in terms of gender, age, educational and professional background)

### **Directive 96/61/EC of 24 on integrated pollution prevention and control**

Integrated pollution prevention and control is the goal of this Directive. It lays down the steps aimed at avoiding or, where this is not feasible, mitigating pollution from the activities in the air, water and land, including measures relating to waste, with a view to achieving a high degree of conservation of the environment as a whole (The European Commission, 1996). It consists of preventing, mitigating and eliminating emissions to a certain extent, by giving priority to source interference and ensuring the responsible management of natural resources, in line with the 'polluter pays' principle and the emissions prevention principle.

### **Directive 2003/87/EC on greenhouse gas emissions trading**

In order to facilitate reductions in greenhouse gas emissions in a cost-effective and economically viable manner, this Directive creates a scheme for greenhouse gas emission allowance trading within the Nation (The European Commission, 2003).

The EU Emissions Trading System (EU ETS) is a pillar of the EU 's strategy to tackle climate change and reduce greenhouse gas emissions. It is the first big carbon market in the world and remains the largest one (European Union, 2015).

Today's CSR activities are often based on Adam Smith 's standard and iconic business model, but businesses are required to take voluntary acts that go beyond legal and economic obligations, rather than simply doing what's needed as an extension (ibid.).

## **1.3 Aspects of CSR**

### **1.3.1 CED's 3 concentric circles model**

An important contribution to the definition of CSR was provided in 1971 by the Committee for Economic Development (CED), a group of businessmen and trainers who within the work "Social Responsibilities of Business Corporation" (CED, 1971), invented and developed a model made up of three concentric circles which allowed to provide its own explanation on the concept of CSR, by relating the company and the society that surrounds it (Figure 1<sup>1</sup>).

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<sup>1</sup> Source: Adopted from CED, 1971



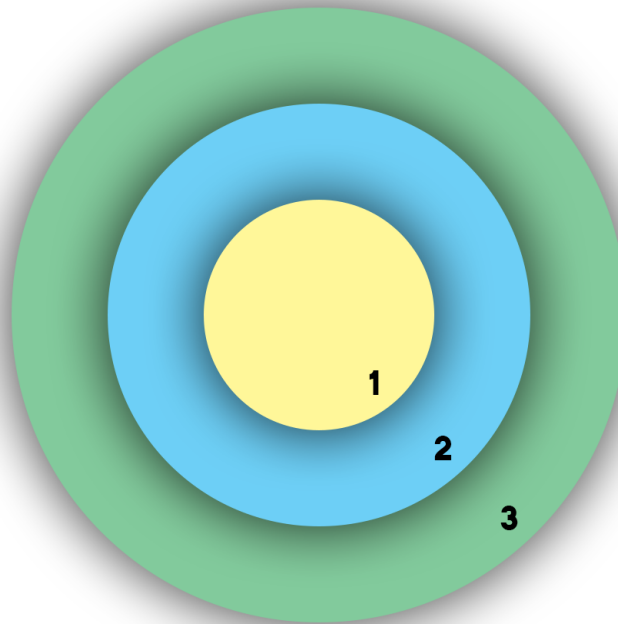


Figure 1 - Three concentric circles model

In the innermost circle represented by number 1 in Figure 1<sup>2</sup>, the CED identifies a set of responsibilities that a company deems necessary for the efficient performance of its traditional economic functions, such as:

- Production,
- Workforce development,
- Economic growth.

The responsibilities for the exercise of the economic functions mentioned above are identified in the intermediate circle, number 2. The central circle implies that the economic functions must be carried out with a sensitive awareness of changing social values and priorities, such as:

- Respect for natural resources
- Relations with its employees

The outermost circle, number 3, highlights all those activities that companies can actively and voluntarily undertake to be even more involved in activities aimed at enhancing the social environment. These activities may concern:

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<sup>2</sup> Source: Own representation

- Improvement of economic and cultural underdevelopment conditions
- Poverty and urban decay
- Improvement of roads

In order to be actively involved in improving the social environment, business should practice the emergent responsibilities mentioned above.

### 1.3.2 Triple Bottom Line

The triple bottom line (TBL) represented in Figure 2<sup>3</sup> is a sustainability-based accounting framework consisting of three parts: social, economic (financial) and environmental. We can refer to this framework as the “3p’s model”: people, planet and profit, which are the three pillars of sustainability. The model is aimed at designing sustainability policies with regard to the environment, stakeholders and profitability. The company can be said to be sustainable when in pursuing its income objective, it manages to reconcile its profit needs with those of internal and external stakeholders and with the protection of the environment (Elkington, 2013).

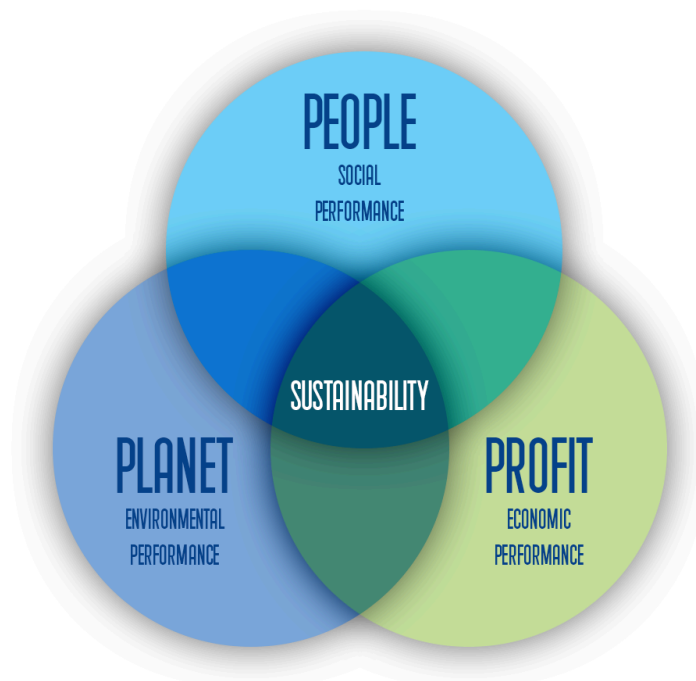


Figure 2 - Triple Bottom Line Approach

<sup>3</sup> Source: Adopted from Kisacik and Arslan, 2017

The concept was first coined by John Elkington in 1994, at the time a consultant in his company called SustainAbility. He argues that when companies make the end of the year balance, they not only have to take into account the profit calculation but also the performance and impact of the company on people (workers, stakeholders, customers) and the environment (pollution, waste, consumption). The Triple Bottom Line approach proposes to incorporate the concept of sustainable development in the evaluation of environmental performance, through environmental indicators and targets and is excellent in summarizing the objectives that the company must pursue.

Social performance is measured in the people's dimension including the impact companies have on human capital. Companies following the bottom line are responsible not only for shareholders but also for employees, customers, the whole community where it operates. Being responsible means providing employees with quality healthcare benefits, a safe working environment and flexible work schedules, creating new opportunities for professional and educational growth.

The planet dimension involves the environmental performance and engage companies in reducing their ecological footprint. It is believed that a company can operate longer and better with a correct behaviour towards the environment. This requires the production of safe and healthy products for the earth and its inhabitants, including emissions, waste and consumption reductions. Renewable energy resources, energy use limitations, safe toxic materials disposal and green corporate companies are some specific actions which companies may perform in order to respect the environment.

The Profit dimension is linked to a traditional cost-revenue analysis and to the need to achieve and maintain an adequate competitive position. Companies which are committed to the triple bottom line approach take into considerations all profits including both shareholders and the community. Here, a corporation aims to promote economic activity and generate equity by reasonably compensating workers, helping with its industry local manufacturers, fostering investment, and paying its fair share of tax. It also makes choices about whether and where to purchase goods, products or services that are financially wise yet ethically motivated.

The 3Ps dimensions influence and support each other and, if intertwined, create a systemic vision of the various elements that lead to the achievement of the sustainability goal. Economic sustainability alludes to the ability to create wealth for the company and for the market in general (suppliers, customers, investors, banks, etc.); social sustainability

concerns the conditions of workers but also the protection of consumer health, both in terms of emissions and of product health and safety; environmental sustainability refers to the assessment of impacts (emissions, exploitation of non-renewable resources, possibility of recycling etc.) of both processes and products.

An effective synthesis of the stakeholders interests and corporate interests allows a Sustainability Sweet Spot (Savitz and Weber, 2006) to be identified as a meeting point between multiple, often opposing, interests which allow to design new business models capable of providing a sustainable response.

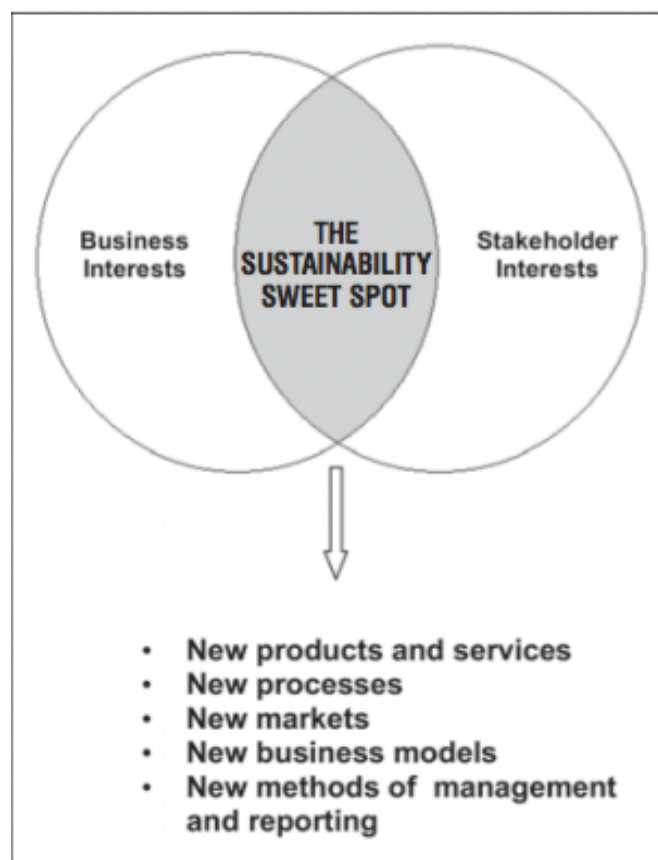


Figure 3 - The Sustainability Sweet Spot

Through the Sustainability Sweet Spot represented in Figure 3<sup>4</sup> it is possible to identify the innovations that must be introduced to design an offer capable of achieving the pre-set performance objective and meeting environmental and stakeholder needs. The

<sup>4</sup> Source: Savitz and Weber, 2006

innovations that emerge can concern different dimensions: product portfolio, new markets, new processes, new business models, new reporting systems.

### 1.3.3 Carroll's pyramid

Carroll's CSR pyramid, given in "A Three-Dimensional Conceptual Model Of Corporate Social Perform" (Carroll, 1979) and represented in Figure 4<sup>5</sup>, is a framework that explains how and why organizations should meet their social responsibilities. Carroll's model suggests that CSR is made up of four types of social responsibilities: economic, legal, ethical and philanthropic. All of these have always existed, however, ethics and philanthropy have gained more importance in the recent years.



Figure 4 - Carroll's CSR Pyramid

In order to consider a wider range of responsibilities that the company has towards society, Carroll divided the Pyramid into 4 categories as can be seen from figure 2. The first two levels, economic and legal responsibility, are linked to the very nature of the business activity. On one side, the claim that the company is active and produces profits and, on the other, the request to respect the laws.

<sup>5</sup> Source: Greenbaum, 2017

Economic Responsibility is at the base of the pyramid as it underlines the importance and the basic characteristic of the economic aim that a company must always pursue, profit creation. It comprehends the set of goods and services that enable the company to satisfy the needs of society thanks to its efficiency and production capacity.

Legal Responsibility is the second level from the bottom, it identifies the importance of following regulations and legal rules that a company must have in pursuing its objectives by identifying the area within which the company can operate. It is also important that the company recognizes and sanctions companies performing activities that do not comply with national and local regulations, so as to encourage them to generate profit in a legal manner. With the next two steps we enter the real corporate social responsibility. The third level, called Ethical Responsibility, identifies all those activities or good practices that society expects the companies to respect, even though if not regulated by laws or ordinances. This level allows companies to operate according to criteria of equity, justice and impartiality.

Carroll identifies at the top level, where Philanthropic Responsibility is located, the purely voluntary activities carried out by the company towards society. These choices, differently from the previous category, which comprehends being voluntary in nature, do not have expectations from the community in which the company operates and are therefore a reflection of the company's desire to engage in social roles which have a strong strategic value. This category can be linked to the outermost concentric circle previously analysed in the three concentric circles model created by the CED in 1971.

Carroll's pyramid identifies the categories that are used to improve the social and economic development of the enterprises without forgetting the economic purpose that underlies the survival of the company. Companies that want to be socially responsible in addition to meeting a multitude of objectives (economic, legal, ethical, philanthropic) must strive to achieve satisfactory profits, respecting the laws and having positive ethical behaviours.

Several other writers shifted the attention from social responsibility to social responsiveness. A fundamental point was that the emphasis on duty was based solely on the notion of corporate commitment and inspiration and that action was ignored. Therefore the social responsiveness movement emphasized corporate action, proactivity and implementation of a social role. Nevertheless, there was also the issue of reconciling the economic position of the company with its social orientation. A step was taken in that direction when Carroll developed the systematic definition of CSR. As stated before, in this

opinion, the notion that the company has not only economic and legal duties but also ethical and moral (philanthropic) commitments was included in the four-part conceptualization of CSR. CSR, in order to be accepted as legitimate, had to address the whole spectrum of business obligations to society, including the economic one.

In addition to providing a new definition of CSR, Carroll in 1977 in his article "A Three Dimensional Conceptual Model Of Corporate Performance" introduces the concept of Corporate Social Performance (CSP) (Carroll, 1979).

According to the author, CSP is the set of three dimensions, Corporate Social Responsibility (CSR) previously analysed in its four economic, legal, ethical and philanthropic aspects, Corporate Social Responsiveness (CSR2) defined in terms of sensitivity towards the social sphere and Social Issues. With CSR2 the concept of CSR is improved because it identifies not only the social obligations that the company must fulfil, but also the most suitable tools to transform these definitions into concrete actions. Finally, Social Issues are intended as identification of clear objectives or areas of interest to which the company wants to address.

The word Corporate Social Performance (CSP) has arisen in recent years as an inclusive and universal framework to recognize corporate social responsibility, sensitivity and the full continuum of corporate socially beneficial practices. In order to have success, companies must develop and execute social priorities and services integrating ethics into their decision taking, strategies and actions.

### 1.3.3 Corporate Social Performance

The term Corporate Social Performance was born in the United States of America and Carroll, Sethi, Wartick, Cochran and Wood were its most representative authors between the late 70s and the early 80s. CSP focuses on the process and methods through which a company identifies and combines its interests with those of the stakeholders, differently from CSR which focus its attention on the result of a company.

Carroll's studies on CSP (Carroll, 1979), analysed in the previous paragraph, are a continuation of the models proposed by Sethi and Preston (1975), in particular Carroll analysed and defined CSR in terms of principles and categories (with reference to the different responsibilities: economic, legal, ethical, discretionary), CSR2 in terms of strategies and processes to make the company achieve social responsibility objectives,

and also sought to balance the two terms so as to make the company achieve both economic and social objectives.

Wartick and Cochran, referring to Carroll's model (1979) that presents CSP as an integration of the three dimensions of corporate social responsibility, corporate social responsiveness and social issues, state that "*the CSP model reflects an underlying interaction among the principles of social responsibility, the process of social responsiveness, and the policies developed to address social issues*" (Wartick and Cochran, 1985). The article traces the evolution of doctrinal studies from CSR to CSP, highlighting how the main challenges faced during this evolution to CSR are actually outdated and summarized in the CSP model.

The challenges to which it refers are essentially three:

- Economic responsibility
- Public responsibility
- Corporate social responsiveness

Regarding the first challenge, addressed by those who believe that the only social responsibility of a company is to make profits, the two authors respond with the claims of several scholars aimed at defining economic responsibility as part of the wider social responsibility: Carroll, in presenting his famous pyramid, believes that it consists of four different types of responsibility: economic, legal, ethical and philanthropic. The second challenge to CSR comes from some scholars who believe they can extend the "traditional" responsibility of businesses of economic type with public responsibility instead of social responsibility. Wartick and Cochran respond by stating that public responsibility is nearly at the same level of social responsibility; in fact, if understood in a broad sense, public responsibility becomes synonymous with social responsibility, while its conception in the strict sense is not acceptable because it fails to grasp all the responsibilities of the companies in the society. In any case, according to the two authors, public responsibility approximates with Carroll's notion of legal liability, and thus, similarly to economic liability, proves to be part of the broader concept of social responsibility. In the third and final challenge Wartick and Cochran analyse the concept of Corporate Social Responsiveness, defining it as a cohesion with CSR. In the CSP model proposed by the two authors, the two terms coexist on two different levels: CSR at the macro level, and CSR2 at the micro level.



The answer to the three challenges allows us to identify the first two dimensions of the CSP model: CSR, which incorporates economic and public responsibilities, and corporate social responsiveness, no longer seen in conflict with the first dimension. These two dimensions are those most developed by the doctrine, Wartick and Cochran, however identify a third dimension which they name Social Issue Management, a dimension that helps to minimize the controversial situations that could occur to the company and find systematic and interactive solutions caused by changes in the environment surrounding the company. Like other areas of issue management such as the public and strategic ones, social issue management is a process that goes through three phases: identification of the problem, analysis and development of the response. Its aim is to minimize the "surprises" coming from the turbulent business environment and to provide efficient and collective responses to environmental changes. The social issue management dimension can be associated with the Freeman's stakeholder theory (1984), which is among the studies that have contributed most to developing the second phase of the process, namely the analysis of social issues.

The following Table 1<sup>6</sup> illustrates a summary of Wartick and Cochran CSP model.

<b>Principles</b>	<b>Processes</b>	<b>Policies</b>
<b>Corporate Social Responsibilities</b>	<b>Corporate Social Responsiveness</b>	<b>Social Issues Management</b>
(1) Economic (2) Legal (3) Ethical (4) Discretionary	(1) Reactive (2) Defensive (3) Accommodative (4) Proactive	(1) Issues Identification (2) Issues Analysis (3) Response Development
<b>Directed at:</b>	<b>Directed at:</b>	<b>Directed at:</b>
(1) The Social Contract of Business (2) Business as a Moral Agent	(1) The Capacity to Respond to Changing Societal Conditions (2) Managerial Approaches to Developing Responses	(1) Minimizing "Surprises" (2) Determining Effective Corporate Social Policies
<b>Philosophical Orientation</b>	<b>Institutional Orientation</b>	<b>Organizational Orientation</b>

Table 1 - Wartick and Cochran's CSP model

<sup>6</sup> Source: S. Wartick and P. Cochran, 1985

Three main elements are represented in this model: the principles, the processes and the policies. These elements that interact with each other describe the responsibilities (economic, legal, ethical and discretionary) that a company has towards society. Furthermore it describes the type of process the company must undertake based on the needs required, that can be reactive, defensive, accommodating and pro-active; instead, through policies, problems are first identified and analysed and then the answer is found. In 1991 Wood revised the CSP model proposed by Wartick and Cochran as she argued that some problems remained unanswered. Wood's observations concern the lack of two components in the model, the actions that a company had to perform and the results. She also criticized the incorrect consideration of corporate social responsiveness as a single process rather than as a set of processes and the limitation deriving from considering social policies as a third dimension, since in her opinion it is possible to have a social performance even without this deriving from deliberate policies. Based on these considerations, Wood defines CSP as:

*“A business organization's configuration of principles of social responsibility, processes of social responsiveness, and policies, programs, and observable outcomes as they relate to the firm's societal relationships” (Wood, 1991)*

She developed her CSP model taking into account Carroll's pyramid and Wartick and Cochran's model and revolutionizing their three classes namely: principles, processes and policies, in three new categories. The first named Principles of Corporate Social Responsibility is made up of the institutional level, which consists of the four domains described by Carroll (economic, legal, ethical, philanthropic), the organizational level that represents public responsibility, and the individual level that refers to managerial discretion. The second category called Corporate Social Responsiveness, is classified into environmental assessment, stakeholder management and issue management. The third and final category is identified as Outcomes of Corporate Behaviour, which represents the Policies described in the Wartick and Cochran model. Here, Donna J. Wood identifies the company's results or performance, including social impacts, social programs needed to implement corporate responsibilities, and social policies used by businesses to deal with social issues and stakeholder interests.

Table 2<sup>7</sup> shows the elements included in the model:

<b>Principles of corporate social responsibility</b>	<b>Processes of corporate social responsiveness</b>	<b>Outcomes of corporate behaviour</b>
Institutional principle legitimacy	Environmental assessment	Social impacts
Organizational principle public responsibility	Stakeholder management	Social programs
Individual principle managerial discretion	Issues management	Social policies

*Table 2 - Wood's CSP model*

Wood identifies three dimensions (Principles, Processes, Results) which are subsequently divided in three levels. In the Principles dimension, the first level (Institutional) considers the expectations that society has towards the company. The second level considers the expectations of society towards the company, considering however the activities they carry out, and each company is responsible for any type of result and impact it generates. The managers behaviour which covers the third level, considers the actions and decisions taken by the managers of a company, considering them as discretionary decisions of the individual subject that cannot always be described in company procedures. Wood considers the second dimension, Corporate social responsiveness, as the "action" of the model and indicates the area of action of the company or that relating to the environment and consequently is used to define the reference context; the stakeholders, i.e. the subjects with whom the company interfaces directly or indirectly or regards social issues. The third and final dimension, in addition to indicating social impacts, allows the company to consider both policies and corporate management programs in relation to problems that may arise in the social sphere or with stakeholders.

In addition to considering results such as corporate behaviour outcomes, one of the innovations proposed in the Wood model uses the three elements of the Principles-Process-Results model simultaneously, so as to be able to identify the links that they can lead to: "good results from bad principles", "bad results from good principles" or "good

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<sup>7</sup> Source: Adopted from Wood, 1991

principles but developed with bad processes" and so on. In fact, according to Wood, it is not given that if a company undertakes good policies they lead to good results, as paradoxically good social results can derive from bad company policies.

#### 1.3.4 Stakeholder theory

The concept of stakeholder was first described in 1963 from the Stanford Research Institute (SRI) as a set of all those subjects who have an interest in the company's business and without whose support, a business is unable to survive. Defining the concept of stakeholder in a precise way is of fundamental importance within the world of CSR because it allows to define a group of people up to then still uncertain and to identify those subjects towards whom the company must adopt a responsible behaviour. The research conducted by the SRI was born as a managerial theory that allowed managers to identify the expectations that stakeholders set themselves and thus define common objectives that both the company and the stakeholders would support to ensure long-term success. One of the fathers of the stakeholder theory was Robert Edward Freeman who in 1984 defined them as: "*groups or subjects that are influenced or can influence the achievement of the objectives of the company*" (Freeman and McVea, 2005).

In addition, he divides them into primary stakeholders identifying a group of well-identified subjects on which the survival of the company depends. These may be the shareholders, employees, customers, suppliers, government agencies, indispensable subjects and he argues that the relationships' inclination they establish with the company can decree the end of the company itself. The secondary stakeholders are identified as groups of people or individuals who can influence or be influenced by the organization's activity in terms of products, policies or by protest movements, local communities, business associations, competitors and the press. According to Freeman it is important not only to identify the groups of subjects with which the company has a relationship, it also must take into account the different needs of all the stakeholders in order to develop strategic relations also by responding to the whole range of stakeholders.

Furthermore, Freeman describes a series of internal and external changes which make the

company's traditional vision on production and managerial no longer satisfactory. In the production vision, the company is depicted as a "black box" in which on one hand the resources acquired by suppliers enter and on the other the products for customers go out; the managerial vision adds the reciprocal relationships that the company maintains with shareholders and employees and makes exchanges with suppliers and customers bilateral. From these groups of stakeholders come a series of changes that Freeman classifies as internal, which added to the external influences from governments, competitors, consumer associations, environmentalists, other interest groups and the media contribute to defining a new vision of the company, which is precisely the heart of the stakeholder theory. Figure 5<sup>8</sup> expresses the "stakeholder" vision of the company; stakeholder groups are those highlighted by Freeman, but they are obviously an example, not an exhaustive classification.



Figure 5 - Freeman's Stakeholder vision

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<sup>8</sup> Source: Adopted from Freeman and McVea, 2005

The most interesting insight here concerns the new strategic approach that arises, the new way in which the company deals with the analysis of the environment that surrounds it, formulates its strategies and configures its decision-making and operational processes. For each category of stakeholder, the managers responsible for the relationship with them must identify the strategic issues that concern them and must understand how to formulate, implement and monitor the related strategies. Social responsiveness and performance measurement become operational when regulated by the stakeholder theory. In fact, with respect to responsiveness, the stakeholder theory allows to identify the subjects towards whom the social sensitivity of the company must express itself and consequently also allows to identify the problems, issues that managers must be able to manage and that are subject to the society's social performance evaluation. This is essential for achieving the objectives set by the company and/or meeting the expectations that stakeholders are projecting on it.

Drawing on the stakeholder theory wave, in 1995 Donaldson and Preston provided a series of recommendations to efficiently manage the stakeholders groups, indicating the choice of organizational structures and general company policies. Describing three scenarios, the descriptive, instrumental and regulatory scenario, the two authors propose an analysis of the possible ways of using the stakeholder theory proposed by Freeman (Donaldson and Preston, 1995).

Through the descriptive function, in Freeman's theory the firm is seen as a mix of different and conflicting interests due to the multitude of subjects that are part of the stakeholder family, and it is the nature of the firm itself that has the ability and the duty to coordinate and make the various stakeholders cooperate with each other.

In the instrumental function, however, the stakeholder theory describes the importance in managing the different relationships with the various stakeholders, in order to be able to achieve the objectives that the company has set itself. Only in this way, through strategic relationship management, the company will achieve long-term success.

With the regulatory function, Donaldson and Preston pay attention to two assumptions of Freeman's theory: the first consists in the fact that the stakeholders have legitimate interests with respect to the company and it is precisely based on these interests, that they are called stakeholders. On the other hand, the second assumption considers these interests as an intrinsic and not purely instrumental value for the company, since they come from subjects (stakeholders) essential for the life of the company and belonging to

categories that hold interests and rights.

In 1997 Mitchell together with other scholars designed a model that allowed the company's management to classify in order of importance the stakeholders with whom it was necessary to speak. This model was further developed in 2001 by Jawahar and McLaughlin, who argued that the relationships that the company had with its stakeholders was not static over time, but evolved and therefore the intensity was subject to constant mutations. According to the two authors, these developments could be summarized in four precise phases: start-up, the relationship birth between organization and stakeholders; emerging growth which represented the growth and consolidation phase of the relationship; maturity, stalemate and maturity of the relationship; and finally decline or revival, the final phase where the relationship reached a critical point, it ended or was revised (McLaughlin, 2001). However, this scheme was quite schematic and lacking in elasticity in outlining the likely relationships that could be created between the stakeholders and the organization.

Another scholar who contributed to the stakeholder study was Jeff Frooman, who in 1999 published an article in the *Academy of Management Review* entitled "Stakeholder Influence Strategies" (Frooman and Review, 1999).

In the above article J. Frooman classified the stakeholders according to three distinguishing factors:

- The stakeholders ability to influence organizational choices,
- The strategies they use to influence the organization,
- The degree of risk to which stakeholders are exposed by interacting with the company.

Even in this case, however, as for the scheme of Jahawar and McLaughlin, Frooman was criticized for being too static in illustrating the relationship between the company and the stakeholders.

The stakeholder theory, accepted and modified by various authors, including those mentioned above, has been criticized or considered incomplete by others. Some observe that the model is not complete due to the fact that the relationships established in reality are not biunivocal (company-single group of stakeholders) but are multiple and interdependent, sometimes involving coalitions between stakeholders, which the company must take into account if it does not want to risk to set its strategy on an incorrect target. Others believe that the theory is lacking from the normative basis point of view, that an

instrumental use of the idea of stakeholders prevails.

The managerial implications of stakeholder theory, however, are indisputable, since it is a valid theoretical basis for the analysis of social strategies, for the definition of the mechanisms by which corporate decisions are made and the implementation processes of the same.

#### 1.4 Guidelines on social responsibility

Many are the internationally principles and guidelines for companies seeking a structured approach to CSR, in particular:

- OECD Guidelines for Multinational Enterprises,
- The ten principles of the United Nations Global Compact,
- The ISO 26000 Guidance Standard on Social Responsibility,
- The ILO Tripartite Declaration of Principles Concerning Multinational Enterprises and Social Policy,

This guidelines represent an evolving and recently reinforced global framework for CSR. (Final, 2011)

#### **OECD Guidelines for Multinational Enterprises**

The OECD Guidelines for Multinational Enterprises are recommendations that governments address to multinational companies. The guidelines seek to ensure that the activities of those enterprises are in compliance with government regulations, to reinforce the reciprocal confidence between enterprises and the communities in which they work, to further improve the environment of foreign investment and to enhance the commitment made by multinationals to sustainable growth. The guidelines include agreed principles that are compatible with existing legislation and globally accepted requirements for good business behaviour. The countries adhering to the guidelines, however, make a voluntary promise to adopt them in accordance with the OECD Council Resolution on the OECD Guidelines for Multinational Enterprises. (OECD, 2001)



## The ten principles of the United Nations Global Compact

The Global Compact is an initiative launched in 1999 by the United Nations General Secretary Kofi Annan to promote corporate social responsibility and to ensure that the business world can contribute to finding solutions to the globalization challenges.

It is a multi-stakeholder network that unites governments, businesses, United Nations agencies, trade unions and civil society organizations, with the aim of promoting the culture of corporate citizenship on a global scale. (Gonzalez, 2017)

The basic idea of the Global Compact is that companies that have a long-term strategic vision oriented towards social responsibility, innovation and accountability can contribute to a new phase of globalization characterized by sustainability, international cooperation, partnership in a multi-stakeholder perspective with positive impacts on the people employed in the company, on all stages of the value chain.

The UN Global Compact, represented in Figure 6<sup>9</sup>, is a business framework based on ten principles in the areas of human rights, labour, the environment and anti-corruption.

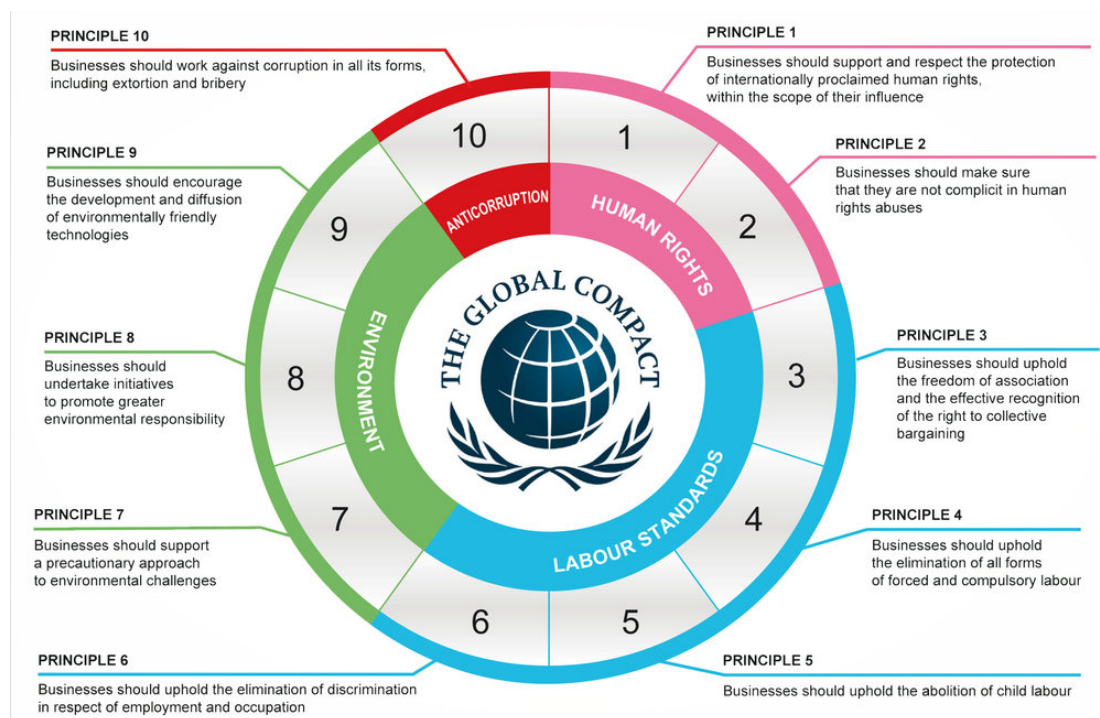


Figure 6 - UN Global Compact - 10 Principles

<sup>9</sup> Source: US Global Compac

## **ISO 26000 Guidance Standard on Social Responsibility**

ISO 26000 is an international standard that provides guidelines on Corporate Social Responsibility which acquires a fundamental role in defining business development strategies in the global economy and sustainable development. The standard was approved in 2010 by the UNI Central Technical Commission and represents an instrument to defend solidarity, cohesion and equal opportunities. This implies that the organization can no longer merely follow the productivity economic target without taking into consideration the current interdependence with social and environmental objectives. Companies are increasingly expected to take on a social position and take care of the environmental implications and the effects of their industry, through an ethical and transparent behaviour that can lead to sustainable growth.

Although ISO 26000 does not constitute a management system standard, it acts as a tool to support organizations with the goal of directing them to follow a responsible approach, aimed at promoting and enabling socially sustainable behaviours or good practices, in order to contribute to Sustainable Development.

The standard is divided into two parts, a didactic one consisting of a reference, a glossary with the interpretation of the key words, a description of social responsibility, its interaction with the philosophy of sustainable development, and a declaration of motivating values for developing a socially responsible system; and an operational part involving the active participation of each organization in the implementation of processes intended to identify the problems on which its social obligation lies.

ISO 26000 provides a reference framework on social responsibility, with reference to seven fundamental themes: organization governance; human rights; working relationships and conditions; environment; correct management practices; specific consumer aspects; community involvement and development.

The standard 's objective is to guide each Organization in implementing good practices, leaving each person to choose the principles for which they wish to commit themselves. The objective of ISO 26000 is to assist organizations that intend to be socially responsible by providing guidelines on the implementation of social responsibility and the involvement of stakeholders; this also by promoting common terminology; disseminating knowledge of the subject matter and increasing customer confidence in socially responsible organizations.

This standard contributes to the following Sustainable Development Goals.

## **The ILO Tripartite Declaration of Principles Concerning Multinational Enterprises and Social Policy**

The ILO Tripartite Declaration of Principles Concerning Multinational Enterprises and Social Policy includes guidelines on employment, training, work and life conditions and industrial relations, for multinational enterprises, governments, employers' and workers' organizations. In order to create equitable jobs for everyone and achieve a common goal acknowledged in the Sustainable Growth Agenda 2030, organizations should follow those guidelines for improving the positive social and labour impact of global company practices and governance. The aim of this Declaration is to promote the constructive contribution that global corporations may bring to economic and social development and to ensuring decent jobs for all. In addition, this would allow companies to reduce and overcome the problems that might emerge from their numerous operations. The Tripartite Declaration is one the most important international instruments linked to corporate responsibility for human rights.

Corporate responsibility for protecting human rights around the world, requires companies and multinationals to stop triggering or leading to negative impacts through their own actions, and resolve such impacts when they occur; they must also aim to minimize adverse human rights impacts that are specifically related to their corporate partnerships by their activities, goods or services (Tully, 2013).

### **1.4.1 Sustainable Development Goals**

The concept of sustainability was introduced during the first United Nations Organization Conference on the Environment (1972) and was later included in a publication of the World Commission for the Environment and Development:

*"Humanity has the ability to make its development sustainable to ensure that the needs of the present are achieved without compromising the ability of future generations to reach their own" (WCED, 1987)*

Over the years, this concept has expanded following the aforementioned triple bottom line approach, by including the social and economic dimension instead of focusing only on the environmental area. Looking towards a better and cleaner future, on 25 September 2015, 193 nations implemented the Sustainable Development Goals (SDGs), represented in

Figure 7<sup>10</sup>, as a follow-up of the Millennium Development Goals. The SDGs centre as part of a global sustainable development strategy on reducing hunger, preserving the earth and promoting sustainability for everyone. 17 targets and 169 objectives will be achieved by 2030 with the joint commitment of policy, businesses and civil society organizations.



Figure 7 - Sustainable Development goals

The goals include three aspects of sustainable development: economic prosperity, social integration and environmental protection. They seek to address inequality, economic prosperity, good employment, towns and human communities, industrialization, environment, habitats, water, climate change, sustainable consumption and production, peace and justice. (Nations, 2018) The Sustainable Development Goals provide a powerful framework for organizations to engage in corporate social responsibility. Together, CSR and SDGs have the enormous capacity to build an integrated economic development model.

CSR and SDGs are frequently related, for example, when an enterprise defines its objective for improving employment through empowering women and youth to enhance

<sup>10</sup> Source: United Nations, 2015

skills, it contributes to various SDGs such as offering a mechanism to end poverty, zero hunger, better education, gender equality, good employment and economic growth.

### 1.5 CSR in the aviation industry

The perceptions of companies on sustainable business activities have evolved in recent years, some due to legislation and rules and some due to stakeholder and environmental concern. The problem that each organization has to discuss and determine is to what extent it behaves responsibly. Firstly, it is the duty of a business to obtain an economic profit for its workers and shareholders. All these acts are viewed as a bonus and a supplementary obligation that has been neglected in recent years. Only now a new way of business emerged due to the upcoming awareness of CSR and the impact that aviation has on the environment.

Aviation and sustainability usually tend to contradict one another. Aviation already accounts for 3% of global carbon emissions and long-term projections indicate that air traffic will continue to rise significantly in the next 15 years, resulting in increased carbon emissions, use of raw materials, and general pollution (EASA, 2019).

Over the past 40 years, aircraft and engine technologies have reduced CO<sub>2</sub> emissions by an annual average of over 1% per mile per passenger. These are the result of major investments in research and development in various fields: materials, aerodynamic efficiency, digital design and production methods, development of turbomachinery and optimization of aeronautical systems. For many years, the aviation community has voluntarily committed itself through a variety of industry organizations and international bodies to achieve a number of decisive goals for improving the aircraft's environmental performance. Actions must also be established to meet and satisfy the needs of stakeholders and to take care of the environment. Despite the growing demand for travel and air transport, the sector accepted the challenge of reducing CO<sub>2</sub> emissions. Through the ATAC - Air Transport Action Group, the aeronautics industry has become the first industrial sector in the world to set an ambitious goal: reduce CO<sub>2</sub> emissions by half by 2025 compared to 2005 values and limit the growth of net emissions of CO<sub>2</sub> by 2020. The aviation industry is respecting the roadmap to achieve these short-term goals, including the implementation in 2019 of the International Aviation Compensation and Carbon

Reduction Program (CORSIA) agreed by the nations of the International Organization for Civil Aviation (ICAO) (AvioMedia, 2020).

In order to reduce emissions and enhance corporate social responsibility, airline operators must invest money in technology and new strategies such as:

- Development of projects and technologies for aircraft and engines with improvements in fuel efficiency and reduction of CO2 emissions,
- Implementation of carbon offsetting programs,
- Support the commercialization of clean and renewable aircraft fuels,
- Improve the management of air traffic and the routing of aircraft to minimize fuel consumption and noise,
- Development of sustainable aviation fuels.

Even though CSR is not applied in all airlines, the position played by airline operators in potential business activities would rely heavily on the steps they are taking now to protect the community, the economy and the climate.

The following chapter will give a deeper overview of the situation before and after Covid-19 pandemic and future trends of the airline industry.

## **2 THE AIRLINE INDUSTRY**

Air transport is today one of the most important markets in the world. Among the countless benefits that this sector has brought (IATA, 2018), the greatest are the following:

- It leads economic and social progress and growth. Its global contribution to GDP is estimated at \$ 2.7 trillion, 3.6% of the world's economic activity.
- It is a means of connection between different people, countries and cultures.
- Provides access to global markets. 70% of companies claim to be able to expand their markets thanks to air transport.
- Creates jobs. Globally it generates 65.5 million, directly instead 10.2 million.
- Generates trade and tourism. The passengers transported per year are 4 billion, 57% of international tourists travel by plane, thanks to the wide choice of destinations around the world and increasingly accessible prices.
- Creates links between developed and developing countries.
- It improves living standards and allows the reduction of poverty.
- Contributes to expanding the state coffers through taxation.

In an increasingly globalized world where people have the need to communicate in real time, air transport cannot be ignored. Commercial needs and the willingness to travel and discover the world have brought people to use the plane more often. Over the years, this competitive market has improved and provided consumers with convenient and efficient services.

In the world we have 1303 commercial airlines, which together they operate 31717 aircraft and provide service to 3759 airports with scheduled commercial flights, 41820 airfields in total worldwide (IATA, 2018). Thanks to them, the distances travelled have been multiplied, communication times have fallen, and trade between countries has increased significantly.

### **International Aviation's Regulatory organizations**

At an international level the aviation is regulated by important organizations such as IATA and ICAO. The International Air Transport Association (IATA) is an international airline

organization founded in 1945 and headquartered in Montreal, Canada. IATA unites and integrates the various service networks of the associated companies: it regulates the transport of people and goods, also offering control tools on prices, connections and availability of flights. It publishes a series of operating manuals such as international guidelines for airlines, for example, the IATA Dangerous Goods Regulations Manual, as a reference source universally accepted by airlines for the transport of dangerous goods. The organization has expanded a lot over the years and nowadays it has 240 companies from over 100 countries in the world that hold around 93% of the scheduled international air traffic.

The objectives of the IATA are to assist airlines to "Promote safe, regular and air travel economic benefits for the benefit of humanity, fostering air trade and studying related problems ", to provide all the necessary means for the airlines cooperation, to avoid harmful competition between airlines and to cooperate with the International Civil Aviation Organization (ICAO) (IATA, 2020a).

ICAO is a specialized UN agency, consisting of 190 states and created in 1944 through an international convention ratified by the member states. The main activities which ICAO supports are the development of principles and techniques of international air navigation, routes and airports and the promotion of the design and development of international air transport by making it safer. Environmental protection is one of ICAO's strategic objectives. To minimize adverse environmental effects from aviation both locally and globally (climate change), ICAO has instructed the Committee on Aviation Environmental Protection (CAEP) to identify the necessary measures to reduce noise, the impact of gas emissions on the global climate and the impact of gaseous emissions on local air quality (ENAC, 2018).

By conducting detailed research and evaluating the achievability and effect of certain possible targets, ICAO is committed to establishing a long-term aspirational objective for international aviation (LTAG). The research will encompass both the impact on growth and costs in all countries.

The activities carried out by ICAO and summarized in Figure 8<sup>11</sup> include (ICAO, 2019):

- Facilitating the participation of stakeholders outside of the aviation industry to collect all the information needed to help an LTAG 's feasibility evaluation.

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<sup>11</sup> Source: ICAO



- Ensure that the right know-how is applicable for data collection, scenario creation and cost-benefit evaluation of scenarios.
- Inform ICAO's Governing bodies throughout all the process
- Clearly consult and dialogue with States
- Ensure a forum for the agreement of possible options prior to the next ICAO Assembly.

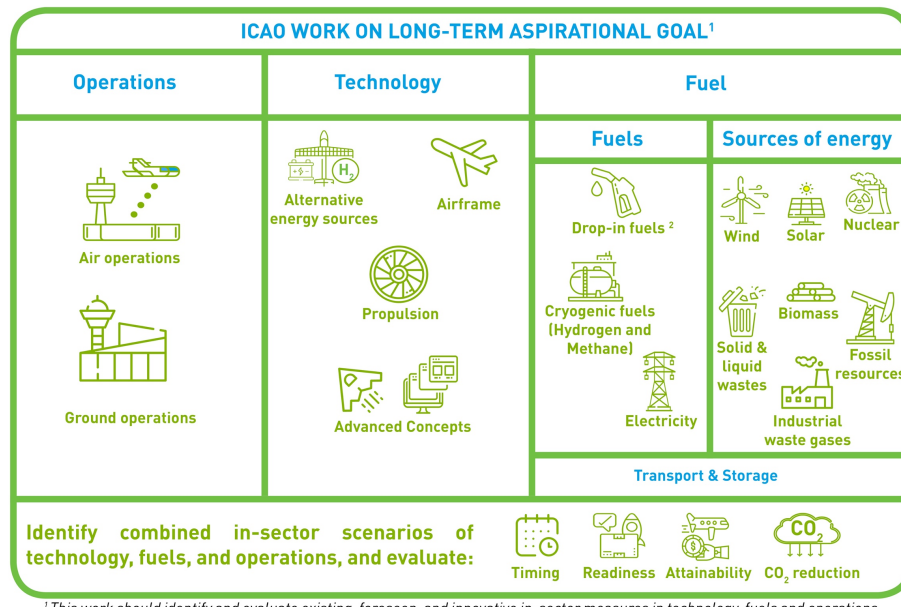


Figure 8 - ICAO work on long-term aspirational goal

## 2.1 The aviation sector before Covid-19 pandemic

Tourism development made air travel gain popularity among travellers especially in the last two decades during which the aviation industry significantly grown. Furthermore, the airline industry has always positively influenced the world's economy as it facilitates logistics and transportation, promotes investment in infrastructures and creates jobs. ACI (Airports Council International) as we can see in Figure 9<sup>12</sup> predicted a tremendous increase in passenger traffic by 2040. In 2017 the global traffic reached 8.2 billion passenger and it is expected to increase at an annual rate of 4.1%, surpassing 20 billion

<sup>12</sup> Source: ACI, 2019

by 2040. Asia is expected to grow mostly due to the fast growing economies of China and India. ACI predicted that China will become the largest passenger market nearly reaching 4 billion passengers, 19% of the global passenger traffic market. US and India follow China with 3 and 1.3 billion passengers respectively. Those three countries together will hold 40% of the global passenger traffic (ACI, 2018).

To live up to these forecasts and satisfy the increasing demands of consumers, airline operators need to generate value by new or upgraded services and responsible actions.

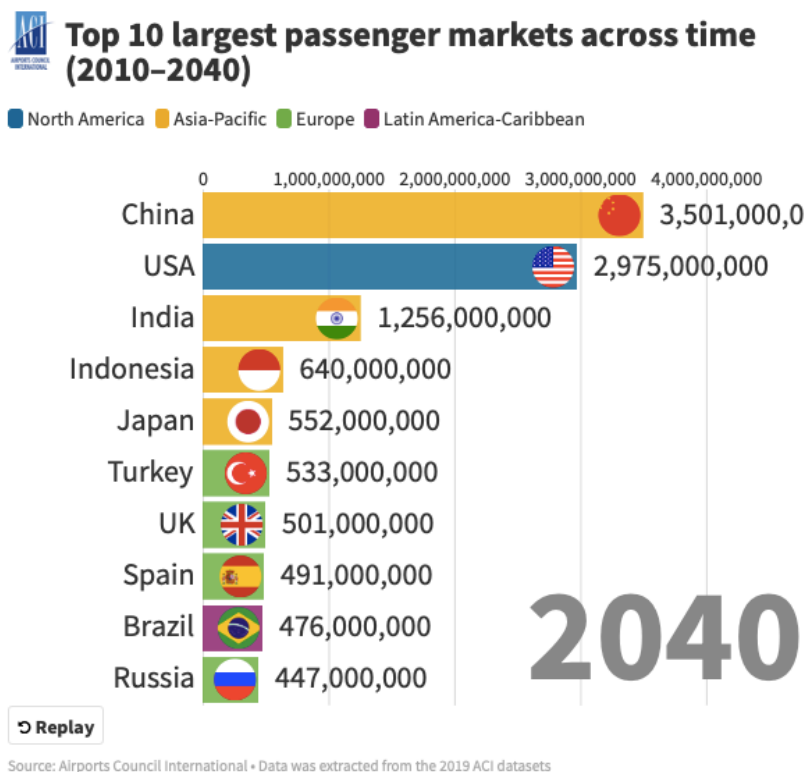


Figure 9 - ACI Forecast

The airline sector is in continuous evolution due to the increase of fuel and energy prices as well as limitations on greenhouse emissions. Aviation is one of the industries which mostly affects the environment as it holds up to 2-3% of the global greenhouse emissions. Projections expect air traffic to rise more in the next 15 years, due to this trend the industry has already started taking seriously CSR implementation, considering actions to reduce emissions, reduce air pollution and have a minor impact on the environment.

During the last years, in order to provide the most efficient service possible, airline companies have created alliances between each other creating advantages such as coordinating passenger services, offering interline tickets, code sharing, cheaper fuel and supply.

## 2.2 Covid's impact on the airline industry

The aviation industry has been deeply affected by Covid-19, currently the International Air Transport Association (IATA) estimates economic losses of \$ 61 billions, only in the second quarter of 2020. The demand for flights has globally fallen by 70% compared to the previous year and by about 90% in Europe.

The global lockdown has completely paralyzed the air transport sector and manufacturing industries. As long as the situation remains like this, IATA estimates that jobs for 25 million people are under threat. It has been estimated a loss of revenue for the entire 2020 of approximately \$ 252 billion (-44% compared to 2019).

Moreover, according to the International Civil Aviation Organization (International Civil Aviation Organization (ICAO), 2020), the new forecasts suggest that, compared with the Baseline (business as normal, originally planned), the potential effect of COVID-19 on the worldwide scheduled passenger traffic for the full year 2020 will include:

- The number of seats offered is estimated to decrease by ca. 47%
- Passengers traffic is estimated to decrease by 2.6 billion passengers
- Airlines gross operating revenues are expected to decrease by approx. 354 \$ billion

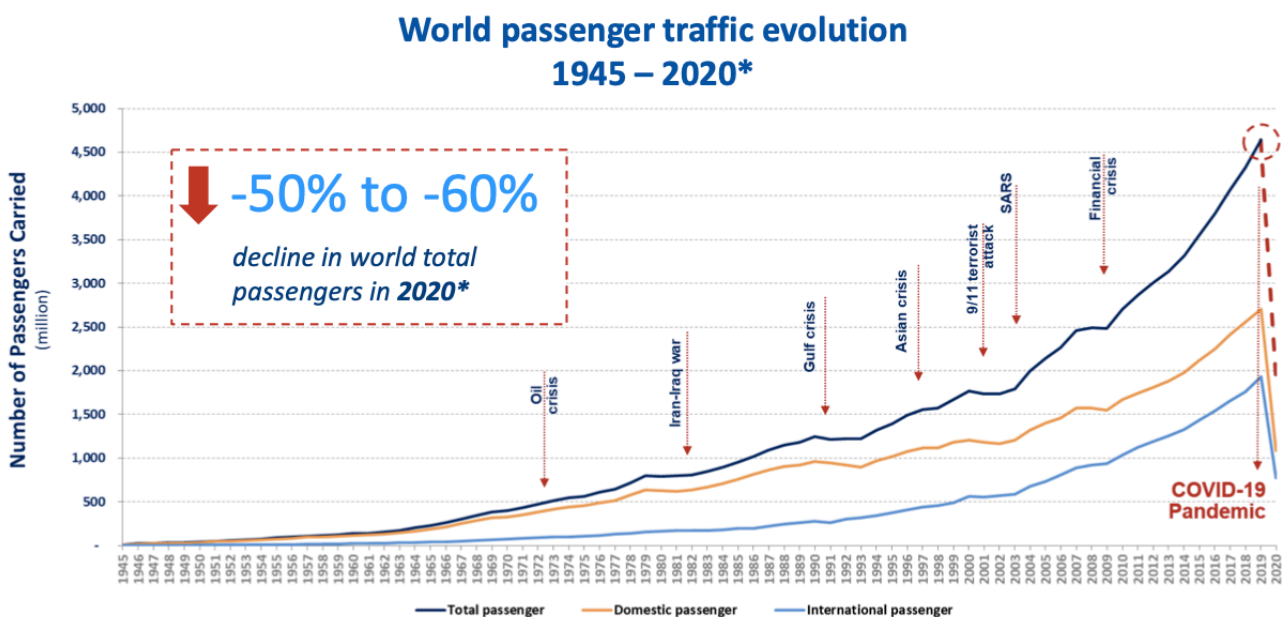
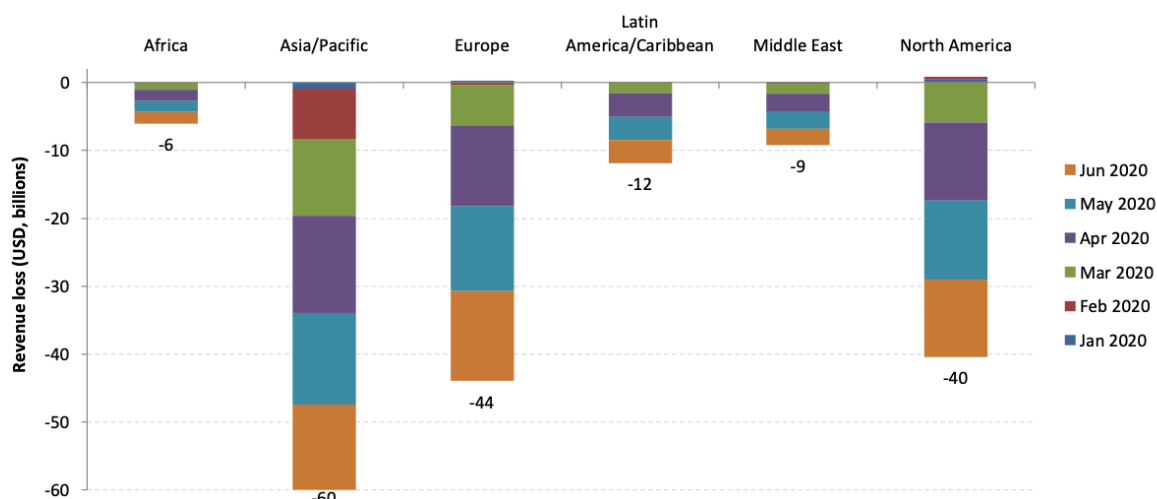


Figure 10 - World passenger traffic evolution 1945 - 2020

From Figure 10<sup>13</sup> we can understand the world passenger traffic evolution from 1945 to 2020. The airline sector is under severe pressure as the traffic loss has well surpassed the amount experienced in events such as SARS and 11 September 2001 terrorist attacks. 90% of the fleet has been grounded and travel demand nearly hit zero.



Note: Compared to Baseline (business as usual, originally-planned)

Figure 11 - Passenger revenue loss from Jan to Jun 2020

As represented in Figure 11<sup>14</sup> from January to June 2020, the passenger revenue loss has been approximately of \$ 170 billion. ICAO's economic impact analysis of COVID-19 on aviation illustrates that 38% of the seats capacity in March was cut worldwide, in comparison with the same period of 2019. Asia/Pacific recorded the biggest fall in passenger revenue loss, followed by Europe and North America (Figure 12<sup>15</sup>).

<sup>13</sup> Source: ICAO, 2020

<sup>14</sup> Source: IATA, 2020

<sup>15</sup> Source: IATA, 2020

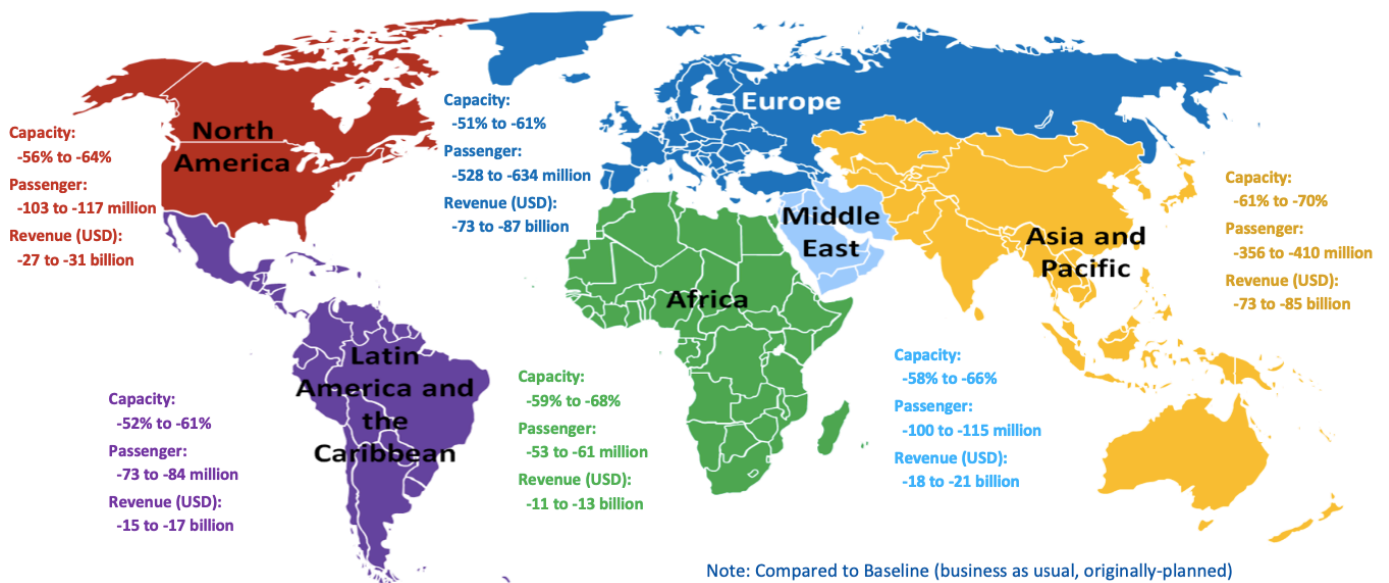


Figure 12 - Estimated impact on international passenger traffic and revenues by region for 2020

Rigid travel restrictions imposed for Covid-19 pandemic have worsened the aviation conditions worldwide decreasing the demand for air transport. Although the current crisis has negatively affected the airline industry, aviation encourages global economies by means of employment, commerce and tourism. In order for the financial and functional operability of the aviation industry to deliver on its value and overcome the consequences of this unprecedented crisis, it is vital to avoid its demise as it plays an instrumental role as a worldwide enabler, thanks to its vast network, vital air cargo services and support of supply chains.

## 2.3 Future Trends

The future of aviation was discussed by the top aviation leaders from all over the world at the FlightPlan virtual event held at the end of April. According to an interactive survey of 537 aviation professionals sent after the event, it has been predicted that domestic travel will recover more quickly than the international one as travel restrictions and border closures are still unpredictable. During this summer, for example, leisure travel in Europe has been predominant although the Senior Vice president for airport, passenger, cargo and security at IATA thinks it's still too early to make predictions (Leigh, 2020). In addition, he believes that also business travel will start to increase as companies will not completely

be able to substitute face-to-face business meetings with videoconferencing since professional relationships are more efficient if built in person.

The poll also asked interviewees how long it would take for the aviation industry to recover to pre-Covid levels; 60% state that the industry would recover during a period of 18 months up to 3 years while 26% were more positive estimating that the recovery time would be until 2021. Although this has been and will be a very challenging period for aviation, the survey reveals a sense of optimism towards the future as the industry has already faced difficult challenges during SARS and 9/11 attacks.

According to many experts, digitalization will be the driver of the sector towards profitable growth. Business efficiency, automation and intelligence, innovative technology and deeper customer engagement are the elements that will help to respond to the pandemic crisis.

IATA reveals that an accelerated recovery of air transport in Europe is vital to avoid the collapse of the entire industry. In 2020, airlines in Europe are set to lose \$21.5 billion with a 50% decline in passenger demand.

Two main government actions have been identified by IATA as priorities in order to restore the industry; a coordinated restart of air travel and a continued financial and regulatory support (IATA, 2020b). First of all, governments must work together to restart air connectivity efficiently and in accordance with international best practices. Measures and operating rules set by ICAO, EASA (European Aviation Safety Agency) and ECDC (European Centre for Disease Control) must be respected as they are based on health principles and include frequent airplane cleaning, the wearing of face masks, appropriate airport screening, temperature measurements and safe destination protocols. It should be taken into consideration the abolishment of quarantine measurements as it impedes the total recovery in air traffic since many passengers will not travel if a quarantine is imposed. Schwartzman, IATA's European regional vice president, explains that a strategy must be created in order to combine coordinated, internationally-consistent health measures for air travel for managing Covid-19 worldwide (ibid.).

Continued financial and regulatory aid is also essential to recover from the crisis and maintain the industry. Financial support has been provided by many European governments who recognized the strategic importance of the aviation sector.

Nevertheless, it is important to remember that all of the financial assistance has come in the form of loans that contribute to the debt load for airlines that can negatively influence their ability to invest in future new facilities, cleaner aircraft and jobs opportunities.

Schvartzman adds that although he's grateful for the help provided so far the worst may be yet to come as EU airlines are expected to lose \$21 billion this year. Consequently, in order to minimize job losses and maintain transport links, continued relief measures will be essential.

## 2.4 CSR as airline strategy

In order to forecast, measure and develop valuable business actions, companies must have a business strategy. Implementing CSR is necessary for a business to be structured and efficient in order to increase its profitability. CSR enables the company to be competitive while allocating its resources in a specific environment to meet customer needs and stakeholders expectations.

The community's choice to focus on sustainable organizations is increasing, so companies who undertake CSR benefit from many advantages such as the improvement of relations between stakeholders, the enhancement of activities and results obtained through CSR, the loyalty of customers able to choose companies that in addition to offering products with the best quality/price ratio, try to be sustainable in their business management.

Furthermore, by integrating its social responsibility as a strategic investment and marketing element.

Nowadays, the airline industry is becoming more and more demanding and, in order to perform in this competitive environment, airlines must apply CSR efficiently as the most important source of competitive advantage.

The company must extend the stakeholder field and optimize its impact on the territory and on the community in order to gain the acceptance of the interlocutors and the permission to act. These activities allow the company to positively influence its value in terms of profitability, trust, credibility, respect, reputation and therefore customers and stakeholders satisfaction. A socially responsible behaviour together with an ethical management enables a company to be more deeply embedded in the territory, to have a closer relationship with the local community and to better serve the environment, enhancing the business-customer relationship.

Airlines are forced to adapt to the new economic, environmental and regulatory contexts. In particular, the demand for air transport is affected by the variation of a series of economic measures, including:

- Consumer confidence, the attitude and willingness of consumers to spend, based on their economic plans and forecasts taking into account the general economy.
- Per capita disposable income, a measure that is directly linked to the general economic cycle of the nation.
- The company's profitability levels, to which the trends of the most profitable segment of the air transport service, that of the business travellers, can be associated.
- The price of fuel, directly linked to the price of oil, which represents a decisive element for the economic results of airlines (F.Rotondo, 2008).

As for the economic characteristics of the sector, the main ones are the following:

- Strong increase in the demand: since the second post-war period, the demand for air transport has experienced very rapid growth. The economic boom of those years led to an increase in per capita incomes, an increase in the level of education, an increase in the urbanization of the world population, and a push to travel for leisure and no longer for purely commercial reasons (Pellicelli, 1996).
- Great competition: the deregulation process that has gone through this market has displaced the national carriers from the situation of dominance in which they operated in the 70s, and prompted the entry of numerous new players in the air transport market, including the most outstanding low cost companies. Those, with their pricing policies continually push full service companies to review their organizational structures and costs.
- Technological progress: precisely due to the presence of many players in the air transport market, all incumbents are driven to seek ever greater levels of efficiency. Nowadays the best technological solutions are used both for aircrafts, which are now equipped with fully computerized systems and have increasingly efficient, reliable, powerful and silent engines, and from the point of view of reservations and check-ins that can easily be made on the internet, thanks to the introduction of computerized reservation systems.
- Decreasing prices: this factor is mainly due to the intensity of competition, market liberalization, and technological innovation, which over the years have led to a drop in real prices both for passenger and goods transport. Previously the flight was for a restricted circle of rich and merchants, now the push to air travel is also and above all due to tourist reasons.



- Decline in profitability: following deregulation, the emergence of low cost airlines, and the intensification of competition from both airlines and high-speed rail systems have led to lower prices. However, costs have increased due to the increase in the price of oil, and therefore the margins of the airlines have decreased significantly.
- Global market: in the last thirty years traffic on international routes has grown more than traffic on national routes, thanks to globalization and to internationalization (IATA, 2018).
- Environmental constraints: restrictions on airline operations have grown over the years. Many countries have undertaken actions to place restrictions on noise and air pollution, and in particular in 2012 the European Union has foreseen the introduction of greenhouse gas emission allowances for all flights arriving and departing from an EU airports.
- Dependence on other sectors: it must be kept in mind that air transport is among the sectors that are most related to the performance of other market segments. The smooth running of an airline depends not only on its own characteristics, but also on the balance of many other factors, such as the mechanical and electronic industries, aircraft manufacturers, leasing companies, airport services, catering, refuelling, etc.
- Volatility of profits: the aviation sector depends on the global economic conditions. Therefore, any fluctuation in global economic capacity has an immediate impact on its performance and profits, highlighting its fragile balance and volatility.

Stakeholders are nowadays pointing concrete questions at companies concerning specific environmental issues. As the interest in responsible behaviour reshapes markets, companies which are prepared to respond, face various risks and opportunities. In order to incorporate CSR actions into business strategies, those companies must be flexible and have the capacity to quickly adapt to new market situations. It is believed that incorporated CSR actions potentially increase benefits as the environmental lens progressively enhances innovation and entrepreneurial actions (Esty and Winston, 2009). Organizations accelerate sales growth and increase consumer satisfaction by remaking their goods according to customer needs. Only those businesses that create, sustain and consistently strengthen their own brand and business will succeed in the long run.

### 2.4.1 Benefits of CSR

Beyond the economic or image benefits that the company can have from the implementation of sustainable management, companies are likely to continue investing in the ethical-social paradigm, not only for fear of negative repercussions, but also because improving their supply chain and their actions can have effects on the relationship with other companies and therefore promote collaboration with a view to joint management of social responsibility.

Stakeholders believe that appropriate CSR practices adopted by the airline industry will positively influence social, natural and economic environment, reducing negative effects. CSR is considered to be an intangible asset that benefits the industry in various ways (Yang L, Ngai CSB, 2020). First of all, efficient CSR activities together with their powerful communication build stronger relationships among corporations and their stakeholders. Consequently this creates a positive effect on the airlines' corporate image, corporate branding, customer equity, market share and enhances customer loyalty leading to a constructive attitude and behaviour (Asatryan and Asamoah, 2014).

Customer loyalty is one of the main factors that allows a real return on investment for the company, especially in the medium and long term. Customers become loyal to a firm when they commit to maintain a relationship with that specific company, repeatedly buying products and/or service from them and spreading good word-of-mouth.

Furthermore, a positive correlation between financial results and investment in CSR has been noted in several researches (Peloza, 2009). There is a growing number of managers and investors who recognize the contrast between corporate responsibility and the search for immediate profit, leading to investments in the short term and economic benefits in the medium-long term. In fact, financial experts and investment managers agree that engaging in social responsibility will make firms more valuable and attractive.

An airline's successful CSR strategy is said to be a core factor in higher stock return and investor satisfaction, leading to better profitability, firm value presentation and higher financial performance (Lee and Park, 2010).

Companies' competitiveness and strategic survival are correlated to CSR practices as airline companies' are believed to voluntarily act responsibly, to strengthen their

competitive advantage and distinguish themselves from other competitors. Risk reduction, employee commitment and corporate reputation improvement are other advantages that CSR gives to the company by playing a significant role in the implementation of long-term strategic plans and values.

## 2.5 Aviation and the environment

Climate change, stratospheric ozone loss (leading to higher surface Ultraviolet radiation, global emissions, and urban contamination) are the major environmental issues associated with aviation. The environmental impact of aviation occurs because aircraft engines emit heat, noise, dust and gases that contribute to climate change and global warming. Airplanes emit particles and gases, such as carbon dioxide (CO<sub>2</sub>), water vapor, hydrocarbons, carbon monoxide, nitrogen oxides, sulphur oxides, which interact with each other and with the atmosphere. Although most of the CO<sub>2</sub> is absorbed from plants and the ocean surface, a big amount of it goes into the atmosphere creating a layer around the globe – the so called greenhouse effect which has a negative impact on the environment and people's health. Thus, heat which would normally escape into space is reflected back to earth, increasing global temperatures. Aircraft nitrogen oxides (NO<sub>x</sub>) and H<sub>2</sub>O vapor boosts cirrus cloud development and build contrails (Capocchitti, Khare and Mildenberger, 2010).

Climate change and the aviation industry are strictly related, airlines harm the environment and as a consequence, climate change affects the sector's trends and efficiency.

Increases in temperature, precipitation (rain and snow), storm patterns, sea level and wind conditions are the most predicted impacts of climate change on aviation. Therefore, climate change is projected to result in intensified precipitation, effects on water and electricity supplies and changes in habitat trends and biodiversity.

Aviation consequences include reduced aircraft performance, changing demand patterns, potential infrastructure damage, capacity loss and disruption of schedules (CAPA Centre for Aviation, 2019).

As the world is experiencing climatic warming at a high rate, aircraft performance is also being negatively affected. For example, increased temperatures reduce the lift causing problems in the runway length requirements, the aircraft payload and range. Heating and

cooling of infrastructures will also be affected by temperature rise and runways and taxiways may incur heat damages. Many have also been the changed rain and snowfall patterns which have increased flights delays and cancellations in the past year.

### 2.5.1 Aviation industry climate action framework

In order to reduce its impact on climate change, the aviation sector is taking adequate measures developing global strategic actions. A series of climate change goals were instituted in 2009 for the whole sector including airports, airlines, air traffic management providers, aircraft manufacturers, etc.

The aviation industry set the framework represented in Figure 13<sup>16</sup> based on a set of three global goals: short, medium and long-term (ATAG, 2018a).

<b>Short-term goal</b>
1.5% average annual fuel efficiency improvement from 2009 to 2020
<b>Progress</b>
Currently tracking well above goal with 2% improvement
<b>How is industry achieving this?</b>
<b>Introduction of <a href="#">new technology</a>:</b> replacing older aircraft with newer, more efficient ones.
<b>Significant investment required:</b> world's airlines will purchase 12,000 new aircraft at \$1.3 trillion

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<sup>16</sup> Source: ATAG, 2018

<b>Medium-term goal</b>
Stabilise net aviation CO <sub>2</sub> emissions at 2020 levels through carbon-neutral growth.
<b>Progress</b>
Adoption of global offsetting scheme <a href="#">CORSA</a>
<b>How is industry achieving this?</b>
Any emissions that aviation industry is unable to reduce through <a href="#">technological</a> , <a href="#">operational</a> or <a href="#">infrastructural</a> measures, or by using <a href="#">sustainable aviation fuels</a> , will need to be offset by <a href="#">market-based measures</a> .

<b>Long-term goal</b>
Halving net CO <sub>2</sub> emissions by 2050 compared to what they were in 2005.
<b>Progress</b>
Significant research efforts underway
<b>How is industry achieving this?</b>
<b>Two main areas of action:</b> development of <a href="#">sustainable aviation fuels</a> ; research into <a href="#">future design concepts</a> by aircraft and engine manufacturers.

Figure 13 - Aviation's global goals

## Technological innovation

Engineers are constantly searching for ways to make aircrafts more efficient and at the same time environmentally friendly. Differently from cars which can frequently refuel, aircrafts travel long distances and must carry all their fuel on board, limiting its range as it is expensive (30% of airline operating costs are directly spent on fuel), heavy and takes up a lot of space reducing the maximum load. Improvements in fuel efficiency reaches 20% for every new generation of aircraft, this has led today's new aircraft to emit 80% less CO<sub>2</sub> per seat than the first jets of the 1950s. Although this has been a great goal, researches are going on in order to develop new technologies to decrease greenhouse gas emissions.

ICAO, in February 2016, established a CO<sub>2</sub> emission standard in order to formalize and enhance the market-driven fuel efficiency progress. Those standards will be applied to all new aircraft designs from 2020 onwards.

### **Sustainable aviation fuels (SAF)**

Sustainable air travel could be reached with the correct development of alternative aviation fuels as its use can obtain a reduction of CO<sub>2</sub> emission of 80%.

Sustainable Aviation Fuel is a clean alternative of fossil jet fuels derived from organic feedstocks such as naturally based waste oils, agri-residues, or non-fossil CO<sub>2</sub>, instead of being processed from petroleum. Compared to conventional jet fuels, SAF recycles CO<sub>2</sub> emissions previously emitted, and ultimately absorbed from the environment through the processing of biomass. SAF benefits CO<sub>2</sub> emissions reduction but also improves local air quality and fuel efficiency.

### **Operational improvements**

Every step of a plane's operations influences fuel burn and emissions, consequently operational improvements can help to reach the aforementioned goals. Operations to be improved are many, for example, when an airplane is departing it must go from the gate to the runway. Instead of using simple aircraft taxi, new operational techniques may be developed.

### **Infrastructure efficiencies**

Infrastructures including airports, ground facilities and flight paths must be improved in efficiency, consequently a series of responsible actions are being taken (ATAG, 2018b):

- Airports investments in offsetting schemes to become carbon neutral, such as the ACI Airport Carbon Accreditation programme and building 'green-certified' terminals.
- Introducing alternative fuels and low emission technology to implement automatic metro lines to reduce on-airport vehicle emissions.
- Changing the way in which electricity is provided to aircrafts at terminal gates by using the fixed electrical ground power instead of the aircraft's auxiliary power unit.
- Installing solar and other alternative energy supplies for terminal buildings in airports.

## 2.5.2 Carbon Offsetting

Carbon offsetting is a particular kind of process that allows corporation to reduce carbon emissions. Despite the fact that it does not work for a reduction for the so-called “in-house” emissions, it is still an environment friendly option for those companies that wish to cut emissions where they could be limited. Simplifying the specifics, we can identify this choice by a prevention and reduction of CO<sub>2</sub> emissions, in other places, in order to compensate those that are produced by activities such as air travel. This kind of compensation could be performed both by airlines and its passengers. Such offsets could derive from multiple projects that can be purchased from carbon brokers or specialized offset providers. The buyer of the project in question will then receive a certificate or a record which will provide its details along with the amount of CO<sub>2</sub> reduced.

As previously mentioned, there are many ways to achieve a reduction of CO<sub>2</sub> emission and, it is needless to say, that these would also bring high social, environmental and economic benefits to a more sustainable development as they are also an effective mechanism to underpin actions against climate change. Traditional offsets include financing alternative energy for communities, protecting or extending forestry and other natural carbon sinks.

Offsetting is also much more efficient than a tax, as carbon taxes only require companies to pay a due amount of money proportional to the amount of their emissions, without guaranteeing a concrete diminishment. Sometimes, an aviation tax is used to raise governments’ revenue instead of reducing emissions. Offsetting helps preventing this as it places a cost on the industry assuring that the revenue goes directly to CO<sub>2</sub> emissions reductions projects.

Changing travel behaviour or purchasing carbon credits through carbon offsetting programmes will lead tourist to mitigate the impact of their emissions (Figure 14<sup>17</sup>). Nowadays, still not enough travellers are aware of the practice of carbon emissions offsetting (Becken and Bobes, 2016).

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<sup>17</sup> Source: Becken and Bobes, 2016

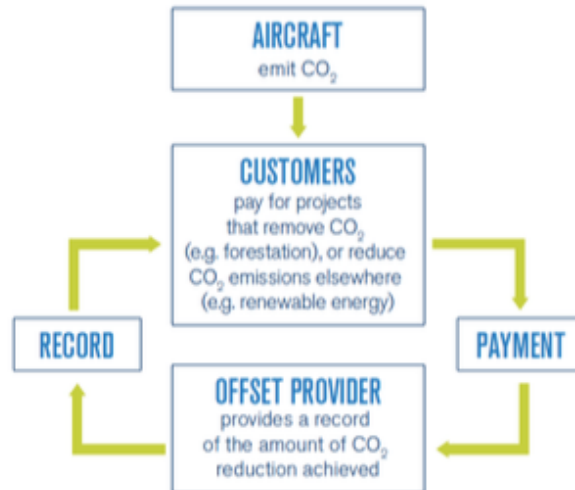


Figure 14 - Carbon offsetting process

In order to face the global challenge of climate change many ambitious goals were introduced in 2009 by the aviation industry for the reduction of air transport CO<sub>2</sub> emissions:

- An average of 1.5% fuel efficiency improvement per year from 2009 to 2020
- A carbon-neutral growth programme from 2020
- A 50% reduction in net aviation CO<sub>2</sub> emissions by 2050

The industry announced a strategy made of 4 pillars, including new technology, more efficient aircraft operations, infrastructure improvements and a single Global Market-Based Measures (GMBM) to fill the remaining emissions gap. The goal of this strategy is to develop sustainable growth as a long term plan.

In 2016, ICAO introduced the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA), a global carbon offsetting scheme to address CO<sub>2</sub> emissions from international aviation. CORSIA is a global project which applies only to international flights as domestic emissions are covered by the Paris Agreement and the UN agency, the UNFCCC. CORSIA aims at mitigating and stabilizing CO<sub>2</sub> emissions while pursuing other emissions reduction measures such as technology, sustainable aviation fuels, operations and infrastructures. Between 2021 and 2035, approximately 2.5 billion tons of CO<sub>2</sub> are expected to be mitigated, about 164 millions tons of CO<sub>2</sub> per annum. 40USD billions are expected to be invested in climate projects.



CORSIA's implementation has been split into 3 phases, identified in Figure 15<sup>18</sup>, in order to achieve a diplomatic consensus at ICAO and resolve developed countries' fears. The two initial phases, from 2021 to 2023 and from 2024 to 2026, will only involve international flights between volunteering states, exempting those that did not volunteered. The so called mandatory phase will take place from 2027 and will cover international flight between both volunteering and non-volunteering states. Least developed countries, small island, landlocked developing countries and states with a small share of international traffic will be exempted (ATAG, 2019).

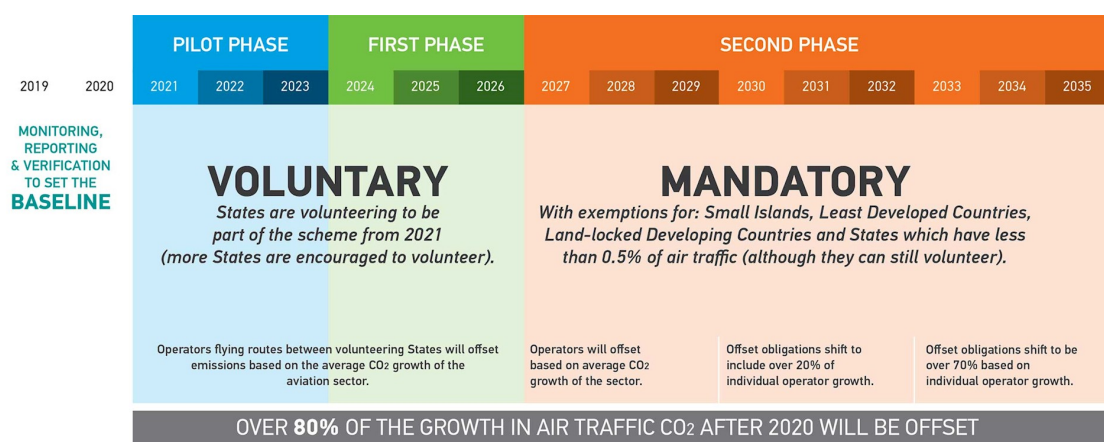


Figure 15 - CORSIA's implementation

## ICAO Carbon Emissions Calculator

ICAO has invented a method to provide a global way of estimating air travel emissions, this takes into account: travel distance, aircraft types, load factors, cargo carried and booking class. The carbon emissions calculator is easily accessible online and has been developed to implement trustworthy information for carbon offset programmes.

Figure 16<sup>19</sup> explains the methodology used to calculate your carbon emissions (ICAO, 2018):

<sup>18</sup> Source: ATAG, 2019

<sup>19</sup> Source: ICAO, 2019

**Summary of the methodology used:**

CO<sub>2</sub> Emissions per passenger take into consideration the load factor and are based only on passenger operations (i.e. fuel burn associated with belly freight is not considered). The steps for the estimation of CO<sub>2</sub> emissions per passenger:

**Step 1:** Estimation of the aircraft fuel burn

**Step 2:** Calculation of the passengers' fuel burn based on a passenger/freight factor which is derived from RTK data

**Step 3:** Calculation of seats occupied (assumption: all aircraft are entirely configured with economic seats). Seat occupied = Total seats \* Load Factor

**Step 4:** CO<sub>2</sub> emissions per passenger = (Passengers' fuel burn \* 3.16) / Seat occupied

*Note: for flights above 3000 km, CO<sub>2</sub> emissions per passenger in premium cabin = 2 x CO<sub>2</sub> emissions per passenger in economy*

Figure 16 - Methodology used to calculate carbon emissions

Figure 17<sup>20</sup> is an Example of carbon calculator from Venice to London Gatwick

One Way/Round Trip		Cabin Class		Number of Passengers		
Round Trip		Economy		1		
Leg	From City/Airport	To City/Airport				
1	VCE	LGW				
Delete All Location(s)	Delete Leg	Add New Leg				
Reset			Compute			
Metric (KG / KM)		Standard (LBS / MI)				
Total						
Dep Airport	Arr Airport	Number of passengers	Cabin Class	Trip	Aircraft Fuel Burn/Journey (KG) <sup>ab</sup>	Total passengers' CO <sub>2</sub> /Journey (KG) <sup>c</sup>
VCE	LGW	1	Economy	Round Trip	10977.4	243.0
Flight Stage Detail						
Dep Airport	Arr Airport	Distance (KM)	Aircraft	Aircraft Fuel Burn/leg (KG) <sup>a</sup>	Passenger CO <sub>2</sub> /pax/leg (KG)	
VCE	LGW	1115.0	319, 320	5488.7	121.5	
LGW	VCE	1115.0	319, 320	5488.7	121.5	

a. Fuel Burn information provided are for 1 aircraft per leg

b. Aircraft Fuel Burn/Journey =  $\sum$ Aircraft Fuel Burn/leg

c. Total passengers' CO<sub>2</sub>/Journey =  $\sum$ Passenger CO<sub>2</sub>/pax/legxNumber of pax

Figure 17 - Example of carbon calculator from Venice to London Gatwick

<sup>20</sup> Source: ICAO, 2019

Changing travel behaviour or purchasing carbon credits through carbon offsetting programmes enable airlines' customers to mitigate the impact of their emissions. Although it is becoming more and more popular, unfortunately many travellers are not informed on the practice of compensating carbon emissions (McLennan et al., 2014). Several factors have been found to positively influence people's willingness to mitigate emissions from air travel (Becken and Bobes, 2016).

These are:

- Belief in climate change (Choi and Ritchie, 2014)
- Positive emotions and benefits (Jou and Chen, 2015)
- Tourism's negative impacts awareness (Davison, Littleford and Ryley, 2014)
- Pro-environmental attitudes (Mair, 2011)
- Participation of others and social norms (Araghi et al., 2014)
- Self-perception (van Birgelen, Semeijn and Behrens, 2011)
- Income. Higher incomes lead to higher willingness to mitigate emissions (Blasch and Ohndorf, 2015)

### 2.5.3 Aircraft noise

Noise is identified as unpleasant sound which disturbs people and damages their health. The way in which people perceive noise may vary according to the length of a person's life in an environment influenced by aircraft noise, psychological discomfort, the effects of environmental stimuli and the individual's behaviour at the moment, such as sleeping, working, watching television, etc.

Aircraft noise is caused by the airflow around the fuselage and wings of the aircraft, as well as engine noise. Different levels of noise and different frequencies and tones are produced by each aircraft. Compared to the 1960s, nowadays airplanes' noise has reduced by 90% however as air traffic continues to rise and demand for air transport grows, the number of aircraft overflying an area also counteracts the change (International Civil Aviation Organization (ICAO), 2020a).

One of ICAO's main goals is to limit or reduce the number of people influenced by the noise emitted from airplanes, since the most important cause of current and future conflicts raised by the community is aircraft noise related to airports' service and development. For this purpose, in 2011 ICAO adopted the Balanced Approach to Aircraft Noise Management, a policy which identifies the noise issues on an individual airport basis and analyses various measures with the objective of reducing noise, maximize environmental benefits and cost efficiency. Those measures can be classified into four elements as seen in the Figure 18<sup>21</sup> (International Civil Aviation Organization (ICAO), 2020).

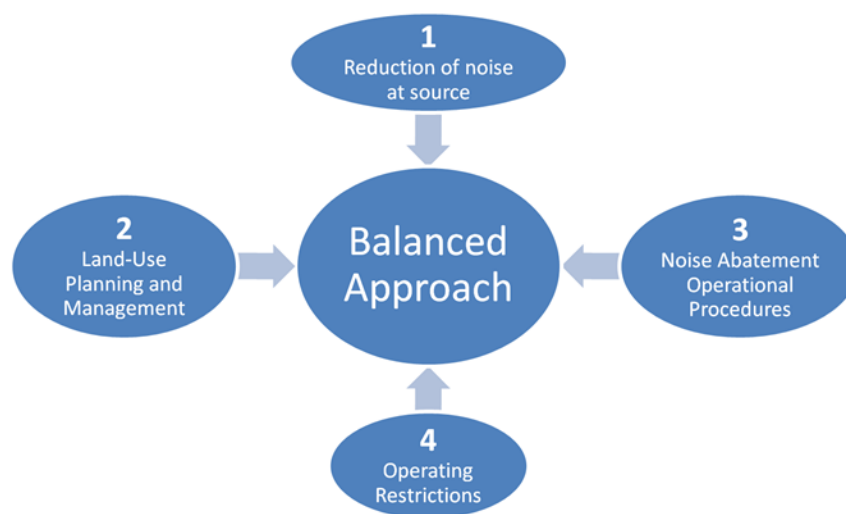


Figure 18 - The four principal elements of the Balanced Approach to Aircraft Noise Management

In order to achieve the aforementioned goals, ICAO constantly conducts many initiatives including researches on emerging noise reduction technologies, noise impacts from new aircraft concepts (e.g. Unmanned Air Vehicles), and the development of Standards and Recommended Practices (SARPs) for future supersonic airplanes. In addition, airport land-use planning and sustainable practices on airport community engagement are also taken in consideration from ICAO.

Concerning ICAO Global Environmental Issues, ICAO has been analysing developments in global aircraft noise emission that offer a basis for sound dialogue and decision-making on aviation noise policies.

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<sup>21</sup> Source: ICAO, 2011

### 2.5.3.1 Global trends in Aircraft Noise

In 2019 the Committee on Aviation Environmental Protection (CAEP) created a set of scenarios for predicting potential noise patterns to update the ICAO Global Environmental Trends. The noise metrics used are the overall contour area and population within the world's 315 airports' estimated average day-night level (DNL) 55 dB contours, reflecting about 80 percent of global traffic.

From Figure 19<sup>22</sup> we can understand that future noise levels reduction will depend on technology improvements in the aircraft manufacturing industry.

Due to a combination of quieter aircrafts joining the fleet and a reduction in demand for air transportation in the long-term, the overall long-term contour area of DNL 55 dB is 10% lower relative to previous pattern estimates (ICAO, 2020).

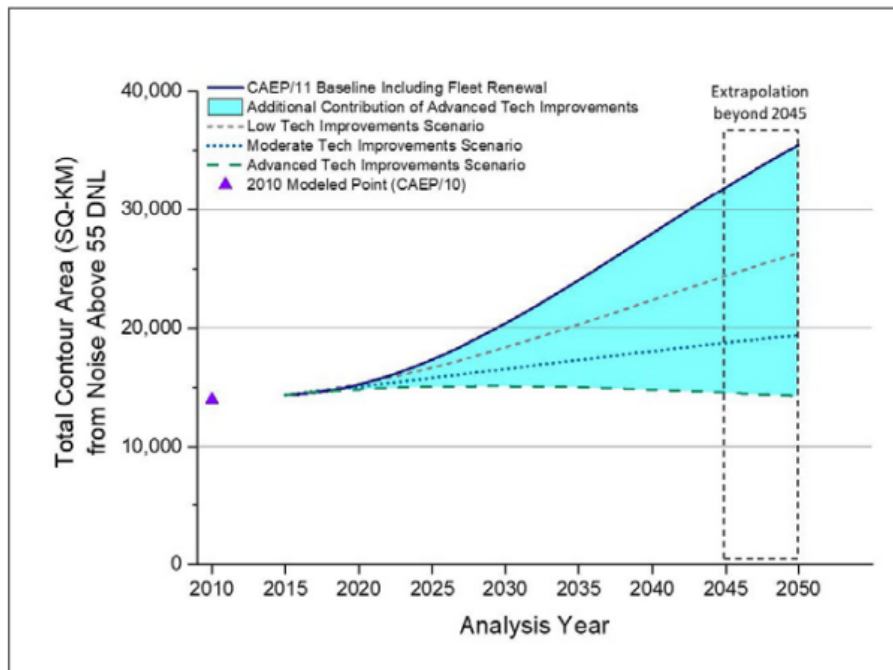


Figure 19 - Total Aircraft Noise Contour Area above 55 dB DNL for 315 airports, 2010 to 2050

### 2.5.3.2 Noise Abatement Operational Procedures

The noise diffused from aircraft's daily operations may also have negative impacts. For this reason, the development and standardization of low noise operational procedures are

<sup>22</sup> Source: ICAO, 2019

assisted by ICAO which aims at safety and cost-effectiveness. The measures include noise preferential runways and routes and noise abatement procedures for take-off and landing. These norms have safety as first concern and they are later applied according to the airports' physical layout and surroundings (International Civil Aviation Organization (ICAO), 2006).

#### 2.5.4 Local Air Quality

In addition to the aircraft noise issue, ICAO is also facing a challenge with the local air quality (LAQ) as it is affected by the aviation emissions. 30 years ago, ICAO started taking into consideration the development of measures to contrast emissions from airplanes engines near the airport or from relevant airport sources.

One of ICAO's environmental goals is to limit or reduce the impact of aviation emissions on local air quality (LAQ). Starting during the late 1970s, ICAO has been developing measures to address emissions from aircraft engines in the vicinity of the airport and from relevant airport sources. Liquid fuel venting, smoke and the main gaseous exhaust emissions from jet engines (HC, NO<sub>x</sub>, CO) are all included on ICAO's LAQ provisions.

##### 2.5.4.1 Trends in Local Air Quality

In 2019 the Committee on Aviation Environmental Protection (CAEP) updated ICAO Global Environmental Trends also creating set of scenarios for predicting the assessment of future LAQ NO<sub>x</sub> and PM emissions trends.

The term NO<sub>x</sub> generally refers to the set of two nitrogen oxides at atmospheric pollution level, namely NO nitrogen oxide and NO<sub>2</sub> nitrogen dioxide which are normally generated during a combustion that takes place using air. PM (Particulate Matter) is the generic term used to define a mixture of solid and liquid particles (particulates) present in the air. PM can originate both from natural phenomena (soil erosion processes, forest fires, pollen dispersion, etc.) and from anthropogenic activities, especially from combustion processes and vehicular traffic (primary particulate matter). After 2015, no aircraft technology or operational improvements are assumed by scenario 1 for both NO<sub>x</sub> and PM. Scenario 2 and 3 assume that by 2036 aircraft NO<sub>x</sub> there will be a reduction from current NO<sub>x</sub>

emissions level of 50% and 100% respectively (International Civil Aviation Organization (ICAO), 2020a).

According to CAEP projections illustrated in Figure 20<sup>23</sup>, reduction of NOx emissions in the future will depend on technology improvements but also on efficient infrastructure use and air traffic management (ATM).

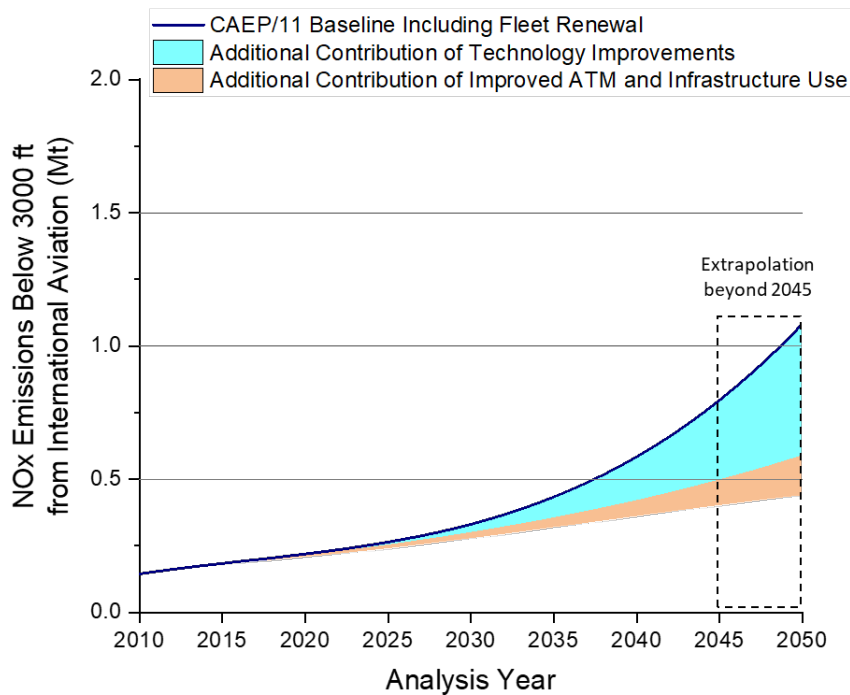


Figure 20 - NOx Emissions below 3,000 feet from International Aviation, 2010 to 2050

#### 2.5.4.2 Local Air Quality Technology Goals

In collaboration with States, ICAO periodically sets technical goals to promote technological growth, in order to have ambitious yet realistic R&D objectives in the field. Such objectives are established by independent expert panels which ensure accountability and participation from all stakeholders.

The ICAO Doc 10127 - Independent Expert Integrated Technology Goals Assessment and Review for Engines and Aircraft (2019) include the latest set of LAQ technology goals. Taking full account of the interdependencies between technologies and integrating them, ICAO developed for the first time technology goals for noise, LAQ and CO<sub>2</sub> emissions.

<sup>23</sup> Source: ICAO, 2019

### 3 RESEARCH METHODOLOGY

While the literature review has helped to define the framework this dissertation is based on, the study approach used to test the hypotheses is emphasized in this chapter. It also outlines the theory of research and offers a detailed description of the nature and methodology of research. A quantitative study involving an experimental design has been conducted to reach the purpose of this research, discovering consumer awareness on CSR in the aviation industry.

The conceptual framework is presented in Figure 21<sup>24</sup>. Perceived CSR, Personal Norms and Awareness of CSR were latent exogenous variables. Intention to behave more responsibly was used as the intervening variable through which the exogenous variables influence purchase intention. A survey was developed in order to achieve the thesis' objective, each variable was measured using questions based on a 7-point scale that ranged from 1 (strongly disagree) to 7 (strongly agree). The higher the respondent's level of agreement with the survey's items, the more higher their awareness on CSR and their intention to behave more responsibly (Jou and Chen, 2015).

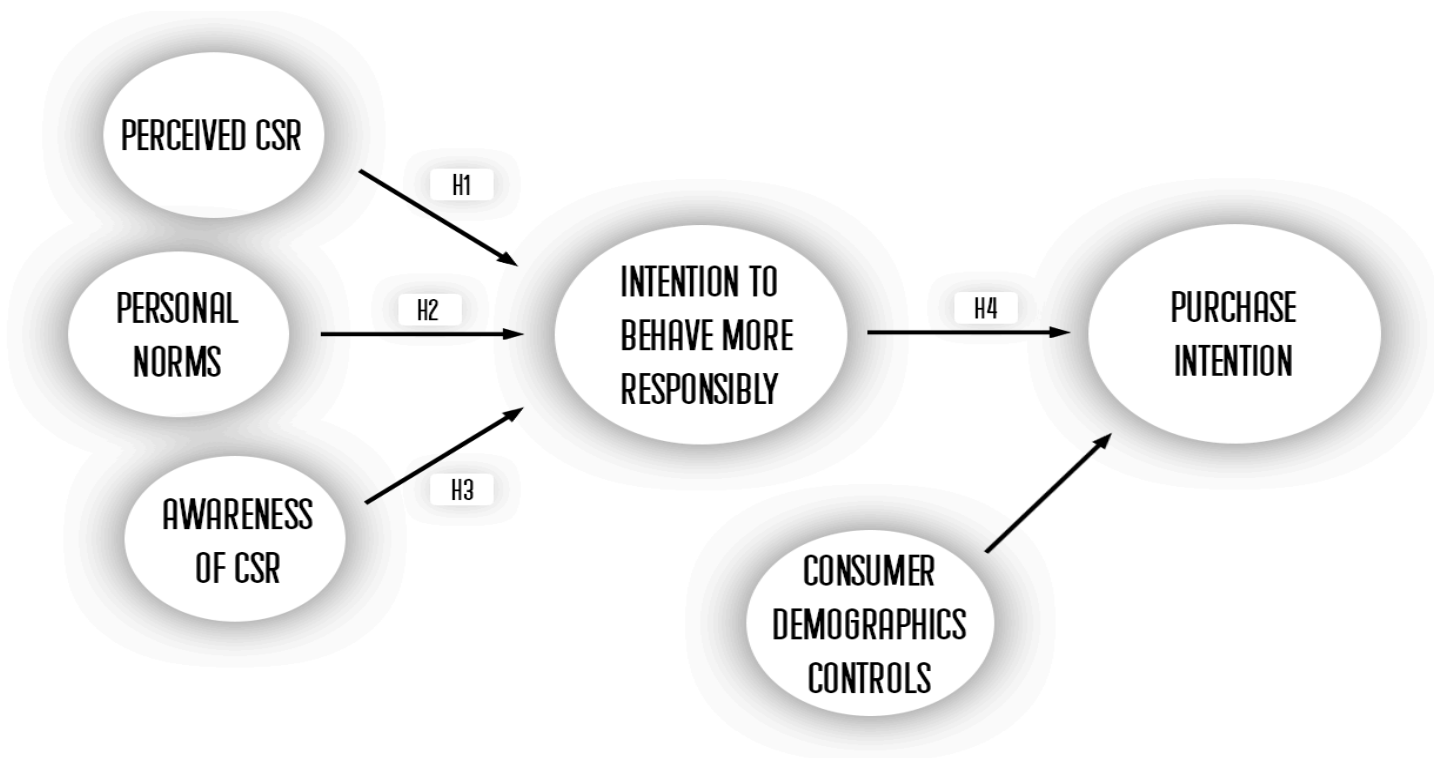


Figure 21 - Representation of the conceptual model

<sup>24</sup> Source: Own representation



## **Perceived CSR**

Consumer perceived CSR is defined as “the ability of the consumers to differentiate between corporate economic responsibilities on the one hand and corporate legal, ethical, philanthropic responsibilities on the other” (Maignan, 2001). Consumer behaviours and reactions are influenced by CSR initiatives. The benefit of the implementation of CSR policies tends to improve the positive responses and understanding of customers. Studying consumer experience will also strengthen our understanding of how customers view CSR operations and how this further enhances their intention to behave more responsibly and their buying intent.

Therefore, the first hypotheses:

*H1) A high level of consumer perceived CSR leads to a higher intention to behave more responsibly*

## **Personal norms**

In the proposed model, personal norms are defined as the degree to which the individual airline passengers believe they should behave responsibly in respect of the environment (Chen, 2013). “Citizens should be responsible not only of their purchasing choices, but also of the influence that their daily acts and decisions will have on the economic, social and environmental spheres of life” (López Davis, Marín Rives and Ruiz de Maya, 2017). Hence, the second hypotheses:

*H2) Higher personal norms lead to a higher intention to behave more responsibly*

## **Awareness of CSR**

Consumers CSR awareness explains whether customers are aware of CSR activities (Pomeroy and Dolnicar, 2009). Consumer knowledge of CSR activities is characterized as consumers' perception of the CSR activities of a company, which includes the ability of consumers to assess if a company is undertaking CSR initiatives (Öberseder, Schlegelmilch and Murphy, 2013). The customers positive view of CSR actions will increase their assessment of the company's image. Anyhow, evidence suggests that customers typically have a low degree of knowledge of CSR initiatives as they are not informed (Pomeroy and Dolnicar, 2009).

Recognition of CSR activities by consumers will at least partly depend on the intensity of CSR information received. Thus, consumers with a higher level of awareness of CSR are more likely to show positive attitudes towards the intention to behave more responsibly and consequently a higher level of purchase intention.

Based on this, we have the third hypotheses:

*H3) A high level of consumer CSR awareness leads to a high level intention to behave more responsibly*

### **Intention to behave more responsibly**

This variable depends from the ones mentioned above and helps to define the consumers' willingness to pay extra to compensate for the environmental damage of their flights and consequently the consumers' consent to pay more attention to eco-friendly airline companies when buying a ticket. Moreover, people's level of interest on the topic will be tested by asking if they will further enrich their knowledge on CSR in the aviation industry and inform people about the issue. It has also been considered interesting to know if the survey have encouraged people to start practising sustainability and act more responsibly. Conform to the above considerations, our fourth hypotheses is:

*H4) A high intention to behave more responsibly increases purchase intention*

### **Purchase intention**

Consumer purchase intention is the most important variable of the model, it explains the willingness to pay extra to fly with an airline which operates in a socially and environmentally responsible manner. One of the aims of this research is to understand whether people would buy from an airline company with a high socially responsible reputation, taking into consideration, for example, how the company treats its employees and if it is committed to reduce negative environmental impact.

### 3.1 Hypotheses Summary

Based on the above discussion, we propose hypotheses and the above research model that consists of 5 dimensions: Perceived CSR, Personal Norms, Awareness of CSR and Intention to Behave more Responsibly. This research model helps us predict consumers' Purchase Intention.

Hypotheses	Contents
H1	<i>A high level of consumer perceived CSR leads to a higher intention to behave more responsibly.</i>
H2	<i>Higher personal norms lead to a higher intention to behave more responsibly.</i>
H3	<i>A high level of consumer CSR awareness leads to a high level intention to behave more responsibly.</i>
H4	<i>A high intention to behave more responsibly increases purchase intention.</i>

Table 3 - Summary of hypotheses

The first objective consists in understanding the level of consumers' perceived CSR and CSR awareness together with passengers personal norms in determining the consumers' intention to behave in a more responsible manner.

This, serves to answer the first research question:

**RQ1)** Does consumer awareness of CSR initiatives makes consumers behave more responsibly?

The second objective aims to explore passengers' intention to behave more responsibly in respect of the environment. Intention to behave more responsibly is measured by several items which analyse the consumers behavioural tendency to act more responsibly, leading to the purchase intention which is defined as the willingness to pay extra to fly with an airline which operates in a socially and environmentally responsible manner.

This will answer the second research question:

**RQ2)** Does the intention to behave more responsibly increases the willingness to pay for carbon offsetting?

Both research question will be reached through the study of the hypotheses indicated in the above framework and represented in Table 3<sup>25</sup>.

### 3.2 Data collection

The goal of this study was to understand how consumer awareness on CSR affects the consumer's intention to behave more responsibly and their purchase intention. The biggest concern was not to disclose the details of the survey and what we are trying to find out to the participants because it could influence their responses, for this reason a generic introduction and a few simple definitions were included. As one of our key variable is awareness of CSR, not informing participants helped to filter them and only the ones who were informed on the topic could take the survey.

To be more precise, the consumer was identified as a person who had taken a plane in the last 5 years (primary screening questions) and who had thought about how air travel affects the environment (secondary screening question). Those, in fact, were the screening questions that made people access the survey, if people responded negatively to one of those questions, they were automatically disqualified from the survey.

The survey was created through Qualtrics, the link has been both sent out to worldwide contacts and uploaded on Amazon Mechanical Turk, a database where millions of people can log into and answer surveys at their most convenient time and place. The platform is very useful to receive fast answers in big quantities as the users get paid an amount of money for every survey they complete. According to Buhrmester (Buhrmester, 2011), participants are demographically diverse and highly educated and MTurk "can be used to obtain a high-quality data". In this case, 80 people were recruited through MTurk and an incentive of €0,10 per person was given to complete all the questions of the questionnaire. The other people were recruited personally and by posting the link on LinkedIn.

The survey titled "CSR in the aviation industry" was opened for a period of 10 days and its aim was to reach at least 150 respondents coming from Europe and/or USA. To ensure that the respondents' were indeed responding from EU and USA, pre-requirements were

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<sup>25</sup> Source: Own representation

set on MTurk and their locations were also checked via GeoIP. Of the 250 participants, 159 valid responses were included in the analysis.

### 3.3 Pre-Test Survey

The survey was pre-tested by 20 participants who were sent the link and answered all the questions. This step was useful to substantiate the clarity of the questions, assuring that none of them were misleading or confusing. Once the feedback arrived and the questions were amended, the survey was both published on the indicated platform and sent to other people.

### 3.4 Survey

The survey (Annex A) comprised 6 sections, mainly characterized by questions related to topics presented in the literature review and related with the variables to be studied. As mentioned above the questionnaire started with a generic introduction so that participants could totally respond with their current knowledge. The questionnaire started with the collection of general information including demographical aspects, flight frequency and reason for flying (leisure or business). The consumers were then asked to rate their general attitudes toward the environmental impact of aviation and on the importance of a company to behave responsibly (on a 7-point Likert scale from strongly disagree to strongly agree). Furthermore, there were more questions analysing the consumers' personal norms and behaviour concerning the environment. Additionally, through some statements people were asked to express their level of awareness on the aviation industry, its environmental impacts and CSR practices. The fourth part of the survey started investigating if people were willing to pay to fly with responsible airline companies and on identifying elements which influence people's purchasing behaviour. The last part of the survey aims at understanding consumer's intention to behave more responsibly.

### 3.5 Measurements

All questions of the survey used the seven Likert scales, where 1= "strongly disagree" and 7 = "strongly agree". Measurements are presented in Table 4<sup>26</sup>.

<b>Variables</b>	<b>Measure Items</b>
Perceived CSR	I am well informed on the environmental impact of aviation. How important is it to you that companies operate on a socially responsible level? What makes a company responsible in your opinion?
Personal Norms	I think it is important to have in mind the impact that my everyday behavior has on climate. It feels good for the conscience to act in a climate smart way. I would feel enthusiastic if I could improve the earth's environment.
Awareness of CSR	I can explain the environmental impacts of aviation. I read aviation news and websites to find out about aviation's environmental impacts. I've heard about airline companies' CSR activities and practices.
Intention to Behave More Responsibly	I'm willing to pay extra to compensate for the environmental damage of my flight. I will pay more attention to eco-friendly airline companies when buying a ticket. I will deepen my knowledge on CSR in aviation industry and inform other people about the issue.
Purchase Intention	I will avoid buying a ticket from an airline that treats their employees unfairly. I am willing to buy a ticket from an airline that is committed to reduce negative. I will avoid buying a ticket from an airline that behaves unethically. I am willing to buy a ticket from an airline that supports social projects. I am willing to pay extra to fly an airline which operates in a socially and environmentally responsible manner. If the price and quality of two flights are the same, I would buy from the airline company with a socially responsible reputation. I avoid buying tickets from an airline which is known for negative environmental impact. I avoid buying tickets from an airline which is known for poorly treating its employees.

Table 4 - Measurements

<sup>26</sup> Source: Own representation

## 4 FINDINGS AND ANALYSIS

### 4.1 Sample demographics characteristic

First of all, the respondents' demographics were examined to have a general overview of all the participants. We then focused on the survey questions involving: age, flight frequency and reason for flying.

#### 4.1.1 Gender and Age

The results in Figure 22<sup>27</sup> show that the survey was answered by more males than females, 88 of the 159 total participants were men (55.35%) and 71 were women (44.65%)

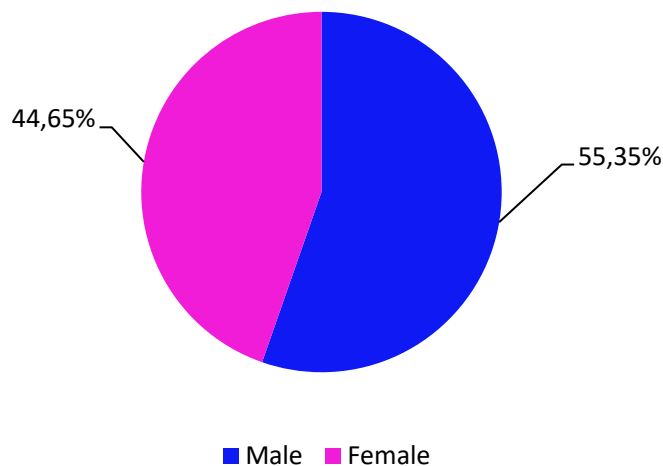


Figure 22 - Participants' Gender

The number of participants between the age of 25-34 was the highest responsive group, representing respectively 44.03% of the total sample set. As displayed in Figure 23<sup>28</sup>, the least responsive groups were the ones representing people older than 45 and 65, depicting 12.58% and 5.66 of the total sample. People ranging from 18-24 and 35-44 years old were slightly higher with percentages of 16.98% and 20.75%.

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<sup>27</sup> Source: Qualtrics Report

<sup>28</sup> Source: Qualtrics Report

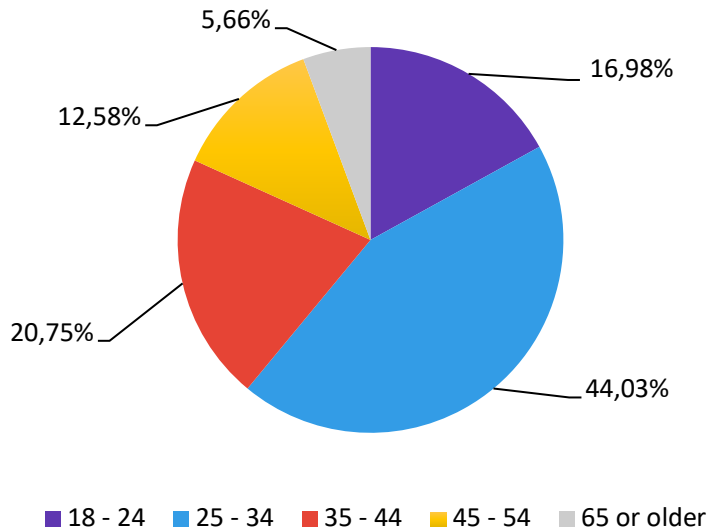


Figure 23 - Participants' Age

#### 4.1.2 Nationality

The survey was published on “Amazon Mechanical Turk platform” and as a requirement the survey was opened only for EU and USA’s citizens. The sample set was divided up into Europeans and Americans, as the percentages in Figure 24<sup>29</sup> suggests, the survey was quite balanced in terms of nationality. In this case nationality has not been considered as an important variable when interpreting results.

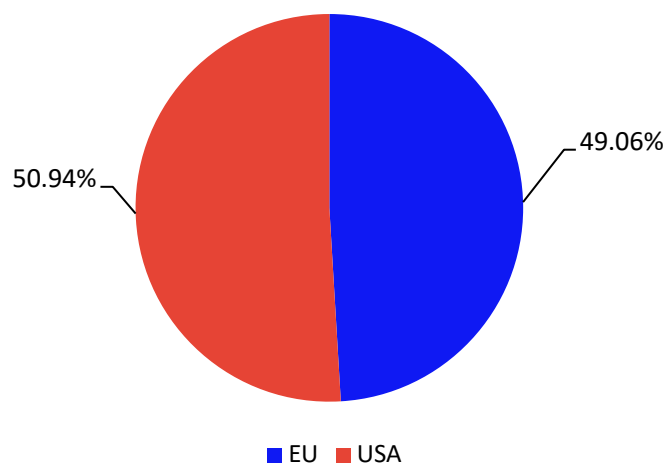


Figure 24 - Participants' Nationality

<sup>29</sup> Source: Qualtrics Report



### 4.1.3 Flight Frequency and Reason for Travelling

Participants' flight frequency and reason for travelling were considered as important demographic controls throughout the model analysis. In fact we will later see that reason for flying significantly influenced purchase intention.

Figure 25<sup>30</sup> shows the number of people who mostly travel for business was greater (95 people) than the ones who travelled for leisure (64 people), respectively 59.75% and 40.25%.

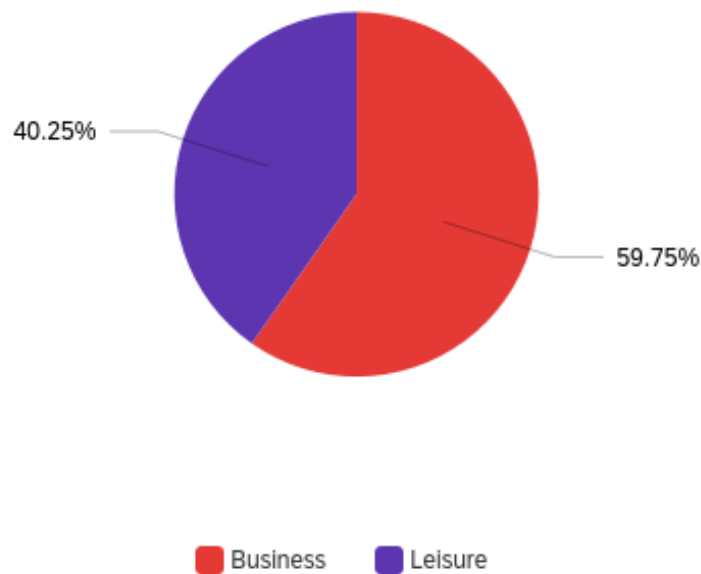


Figure 25 - Reason for flying

Figure 26<sup>31</sup> shows the difference between business and leisure travellers indicating also their flight frequency. Only 6.32% of the business travellers travel once a week or more of the total sample set. In both reasons for flying, the number of people who fly a few times a year had the highest peak, illustrating 41.05% for business and 64.06% for leisure.

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<sup>30</sup> Source: Qualtrics Report

<sup>31</sup> Source: Qualtrics Report

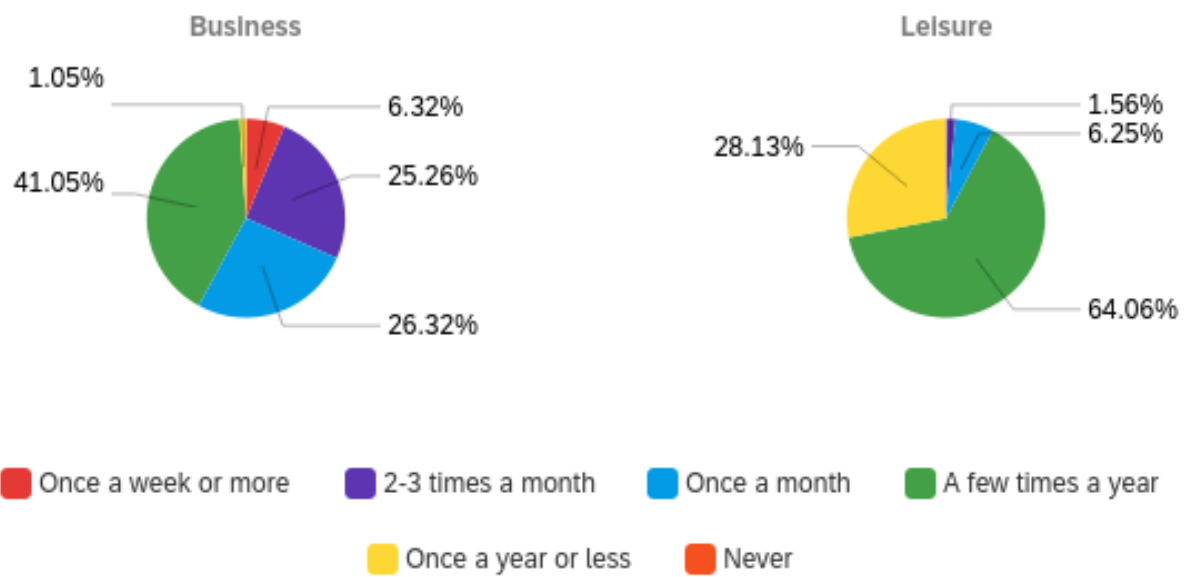


Figure 26 - Participants' flight frequency and reason for travelling

## 4.2 Analysis

### 4.2.1 Reliability and Validity

According to Yong and Pearce (2013) as well as Kenny, Kaniskan and McCoach (2015), prior to the inferential testing of the causal relationships of latent variables, it is imperative that the constructs involved be tested for reliability and validity. This was best done using Confirmatory Factor Analysis (CFA) (Finch, W. H., & Bolin, 2017), which according to Mertler and Reinhart (2001) tested for construct validity, that is convergent validity and discriminant validity. Since the sample size was 159, which was less than 200, the PLS-SEM based approach was used in lieu of the CB-SEM approach which is optimal for samples greater than 200 (Hair et al., 2014).

Table 5<sup>32</sup> presents the results.

<sup>32</sup> Source: Own representation with PLS-SEM report

	Factor loadings	Cronbach's $\alpha$	CR	AVE
<b>Awareness of CSR</b>		0.887	0.930	0.816
Aware1	0.924***			
Aware2	0.910***			
Aware3	0.875***			
<b>Intention to behave responsibly</b>		0.836	0.891	0.671
Behaviour1	0.824***			
Behaviour2	0.774***			
Behaviour3	0.860***			
Behaviour4	0.816***			
<b>Perceived CSR</b>		0.306	0.742	0.590
Perceive1	0.735***			
Perceive2	0.800***			
<b>Personal Norms</b>		0.767	0.861	0.675
Pnorms1	0.765***			
Pnorms2	0.810***			
Pnorms3	0.886***			
<b>Purchase Intention</b>		0.844	0.880	0.513
Purchase1	0.726***			
Purchase10	0.749***			
Purchase11	0.655***			
Purchase12	0.776***			
Purchase13	0.747***			
Purchase3	0.708***			
Purchase4	0.640***			

\*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$

Table 5 - Reliability and Convergent Validity

To test for reliability, the composite reliability (CR) was computed, and according to Byrne (2013) and Hair et al. (2014), the minimum acceptable threshold is 0.70. From the results above, the minimum composite reliability was 0.742 for Perceived CSR, while all the rest of the constructs were greater. Since all the constructs' composite reliability were greater than 0.70, it follows, therefore, that all the constructs considered in this study were internally consistent and reliable.

However, if the Cronbach's alpha was considered, problems were identified with Perceived CSR whose alpha was 0.306, and being less than the prescribed 0.70, this would mean that this construct was not reliable. Nevertheless, according to Kline (2016) and Hair et al. (2014), the composite reliability tends to be a more robust measure of reliability than the Cronbach's alpha and in this respect, the researcher considered all the constructs as being reliable, basing on the composite reliability results.

To test for convergent validity, the Average Variance Extracted (AVE) was computed as prescribed by Kline (2016). Hair et al. (2014) and Mertler and Reinhart (2001) contend that the minimum AVE ought to be 0.50. From the foregoing, the minimum AVE computed was 0.513 for purchase intention, and since this was greater than the minimum threshold, it followed that the convergent validity was not violated.

Lastly, to test for discriminant validity, the Heterotrait-Monotrait (HTMT) ratio was computed as prescribed by Henseler, Ringle and Sarstedt (2015) and Finch and Bolin (2017), and these scholars prescribe a maximum threshold of 0.85. The results are presented in

Table 6<sup>33</sup> below. From the outcome, the maximum coefficient was 0.721 intention to behave responsibly and purchase intention. Thus, none of the coefficients were greater than the maximum acceptable 0.85. In this regard, it follows that discriminant validity was, therefore, not violated.

Fornell-Larcker Criterion					
	1	2	3	4	5
1. Awareness of CSR	<b>0.903</b>				
2. Intention to behave	0.532	<b>0.819</b>			
3. Perceived CSR	0.543	0.528	<b>0.768</b>		
4. Personal norms	0.038	0.478	0.452	<b>0.822</b>	
5. Purchase intention	0.330	0.721	0.459	0.633	<b>0.716</b>

Table 6 - Discriminant Validity

The resultant structural equation model is illustrated in Figure 27<sup>34</sup>.

<sup>33</sup> Source: Own representation with PLS-SEM report

<sup>34</sup> Source: Own representation with PLS-SEM report

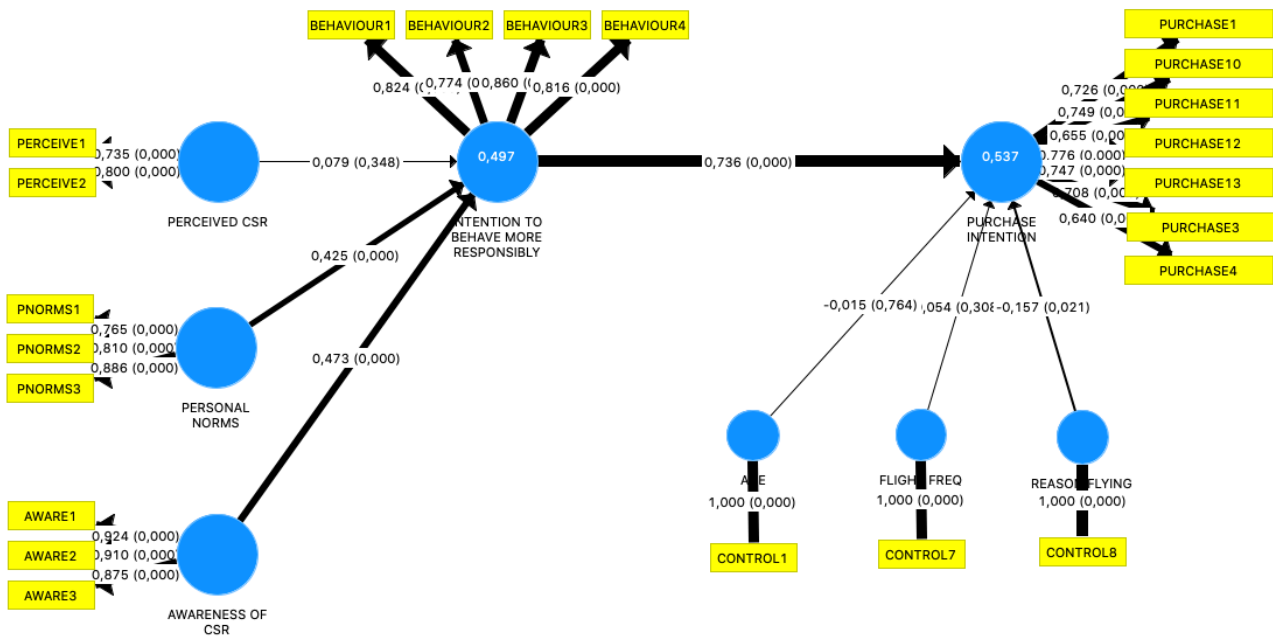


Figure 27 - Structural Equation Model

The corresponding path coefficients are presented in Table 7<sup>35</sup>.

	t	p
Age -> Purchase Intention	0.301	0.764
Awareness Of CSR -> Intention To Behave More Responsibly	7.579	0.000
Flight Frequency -> Purchase Intention	1.021	0.308
Intention To Behave More Responsibly -> Purchase Intention	16.456	0.000
Perceived CSR -> Intention To Behave More Responsibly	0.939	0.348
Personal Norms -> Intention To Behave More Responsibly	6.455	0.000
Reason Flying -> Purchase Intention	2.318	0.021

Table 7 - Structural Equation Model Path Coefficients

<sup>35</sup> Source: Own representation with PLS-SEM report

## 4.2.2 Hypotheses testing

Partial least squares structural equation modelling (PLS-SEM) has been used to test the hypotheses. As illustrated in

Table 7, 4 significant relationships have been identified looking at the p-value which must be less than 0.05 for a significant difference to exist at 95% confidence and for the hypotheses to be accepted (Greenland et al., 2016).

### Perceived CSR

No significant relation was found between consumer perceived CSR and the intention to behave more responsibly ( $t = 0.939$ ,  $p = 0.348$ ). For this reason we reject *H1: a high level of consumer perceived CSR leads to a higher intention to behave more responsibly.*

Consumer perceived CSR do not influence intention to behave responsibly, this because people were not completely informed on the environmental impact of aviation.

Although, as we can see in Figure 28<sup>36</sup>, 47.80% of the participants declared that, for them, the fact that companies operate on a socially responsible level is very significant.

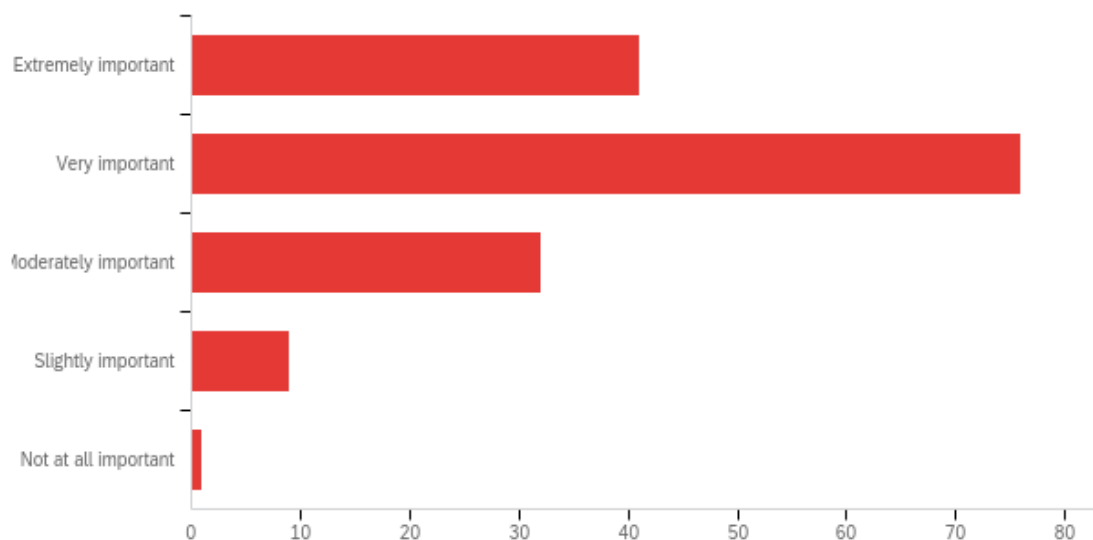


Figure 28 - How important is it to you that companies operate on a socially responsible level?

<sup>36</sup> Source: Qualtrics Report

Moreover, 34.59% of the participants identified “being environmentally friendly” as the reason why a company is responsible, while the 28.30% and 21.38% declared that companies are responsible of offering good quality products and following legal requirements. From the answers represented in Figure 29<sup>37</sup> we understand that people perceive company responsibility differently due to the fact that some may not be sufficiently informed on the argument or, either, some have different perceptions and views.

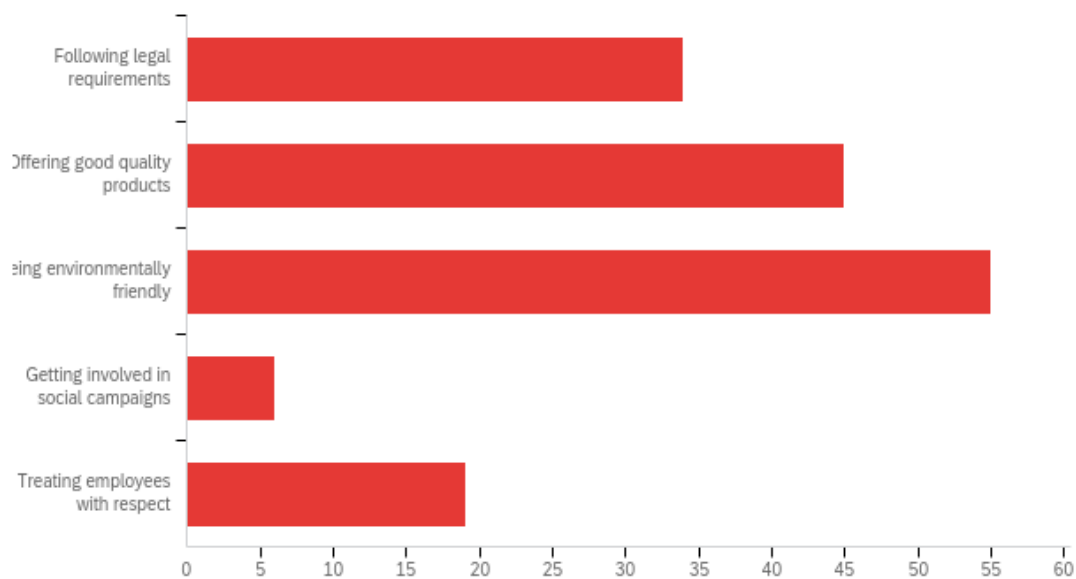


Figure 29 - What makes a company responsible in your opinion?

## Personal Norms

A positive relationship has been found between personal norms and the intention to behave more responsibly ( $t=6.455, p<0.01$ ). Therefore, our results support and accept the second hypotheses *H2: higher personal norms lead to a higher intention to behave more responsibly.*

As personal norms are defined as the degree to which the individual airline passengers believe they should behave responsibly in respect of the environment (ibid.), participants

<sup>37</sup> Source: Qualtrics Report

were asked to indicate how much they would be enthusiastic if they could improve the earth's environment. As illustrated in Figure 30<sup>38</sup>, about 75% of the participants answered with a high level of interest towards the environment. In addition, most of them agreed with the fact that acting in a climate smart way makes the conscience feel good. It is not a coincidence that future plans for the planet have been and are being constantly developed in order to live in a more sustainable world and ensure that the needs of the present are achieved without compromising the ability of future generations to reach their own (WCED, 1987).

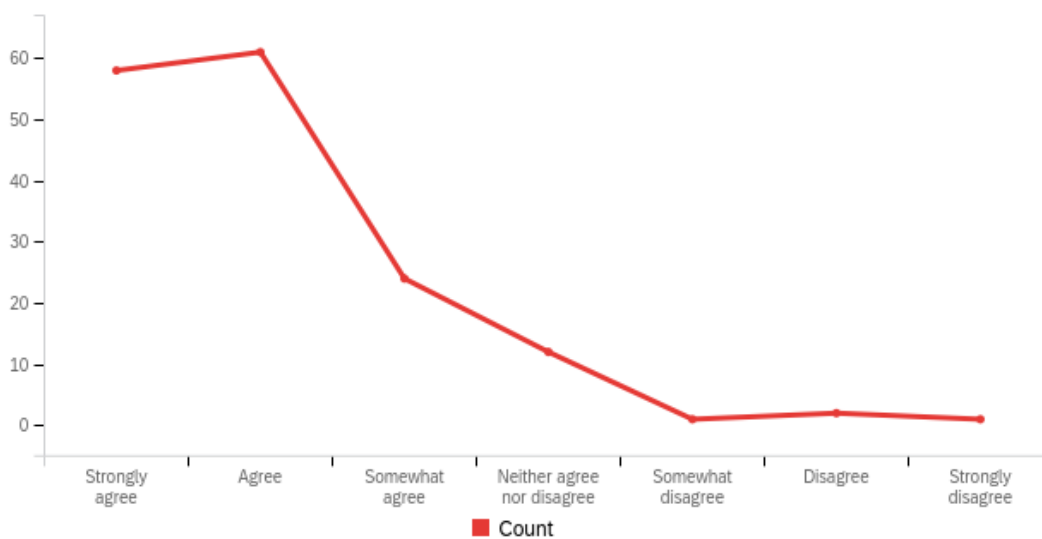


Figure 30 - I would feel enthusiastic if I could improve the earth's environment

## Awareness of CSR

The positive and significant relationship was found between consumers' awareness of CSR and intention to behave more responsibly ( $t=7.579$ ,  $p<0.01$ ) which supports the third hypotheses *H3: a high level of consumer CSR awareness leads to a high level intention to behave more responsibly.*

Thus, consumers with a higher level of awareness of CSR are more likely to show positive attitudes towards the intention to behave more responsibly and consequently a higher level of purchase intention.

<sup>38</sup> Source: Qualtrics Report



The findings in Figure 31<sup>39</sup> show that 44.03% of the participants indicated that they could explain the environmental impacts of aviation, while only 28.93% partially could do so. The rest of the participants could not explain the aviation’s impact on the environment.

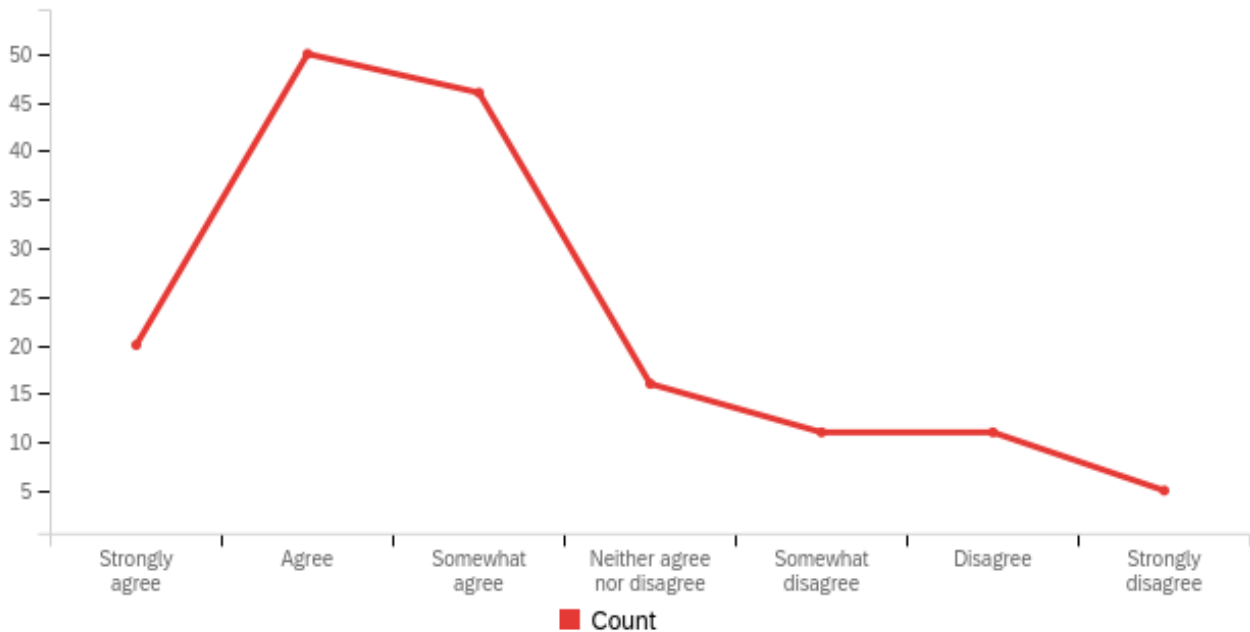


Figure 31 - I can explain the environmental impact of aviation

When people were asked to indicate whether they have ever heard about airline companies’ CSR activities and practices, answers were quite different between them. As illustrated in Figure 32<sup>40</sup>, the mean was 3.5, this tells that although people could explain the aviation’s environmental impacts, most of them was not so aware of specific airline’s CSR practices. Overall, 42.12% of the respondents had barely or never heard about CSR practices in the aviation industry.

<sup>39</sup> Source: Qualtrics Report

<sup>40</sup> Source: Qualtrics Report

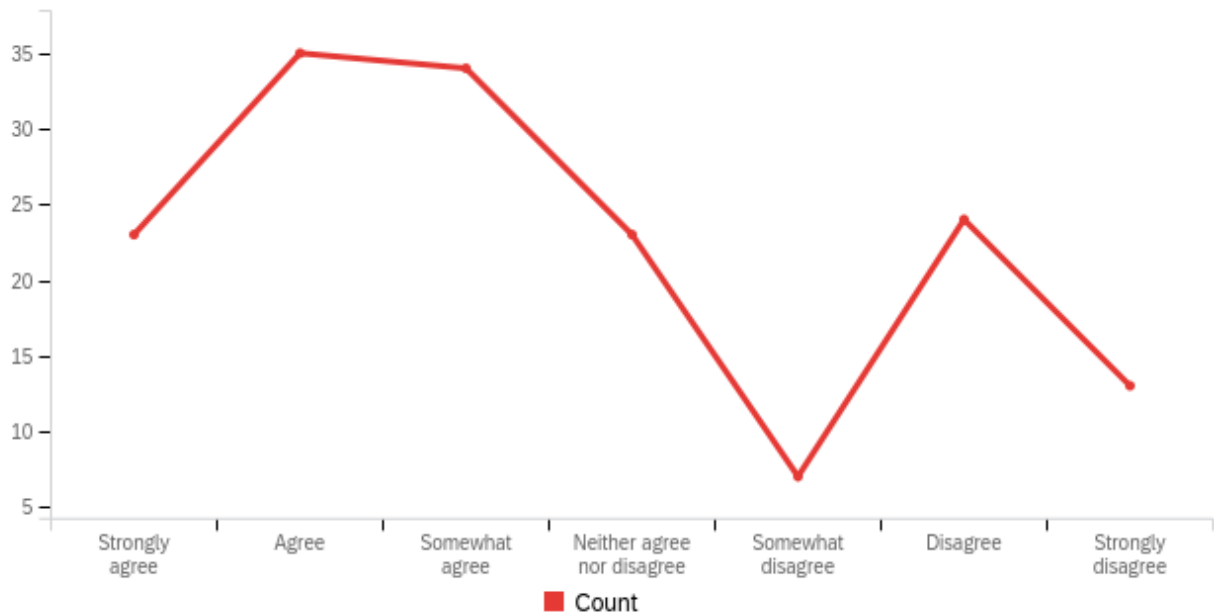


Figure 32 - I've heard about airline companies' CSR activities and practices

It also has been noticed in Figure 33<sup>41</sup> that business travellers are more informed on the matter while most of the consumers who travel for leisure are not. People who were informed on aviation's CSR practices, have also been asked to name some CSR activities they knew:

- Plastic avoidance
- Reducing jet emissions with GPS based navigation and newer equipment
- Reduce carbon dioxide emission
- Ryanair booking option to compensate traveller carbon emission by making him/her pay for it
- Reduction in fuel consumption and use of biofuels
- Investing in renewable energy and sustainable resources
- Improving labour policies
- Charitable giving
- Make people paying a tax for flying
- Sustainability reports and organizations' transparency

<sup>41</sup> Source: Qualtrics Report

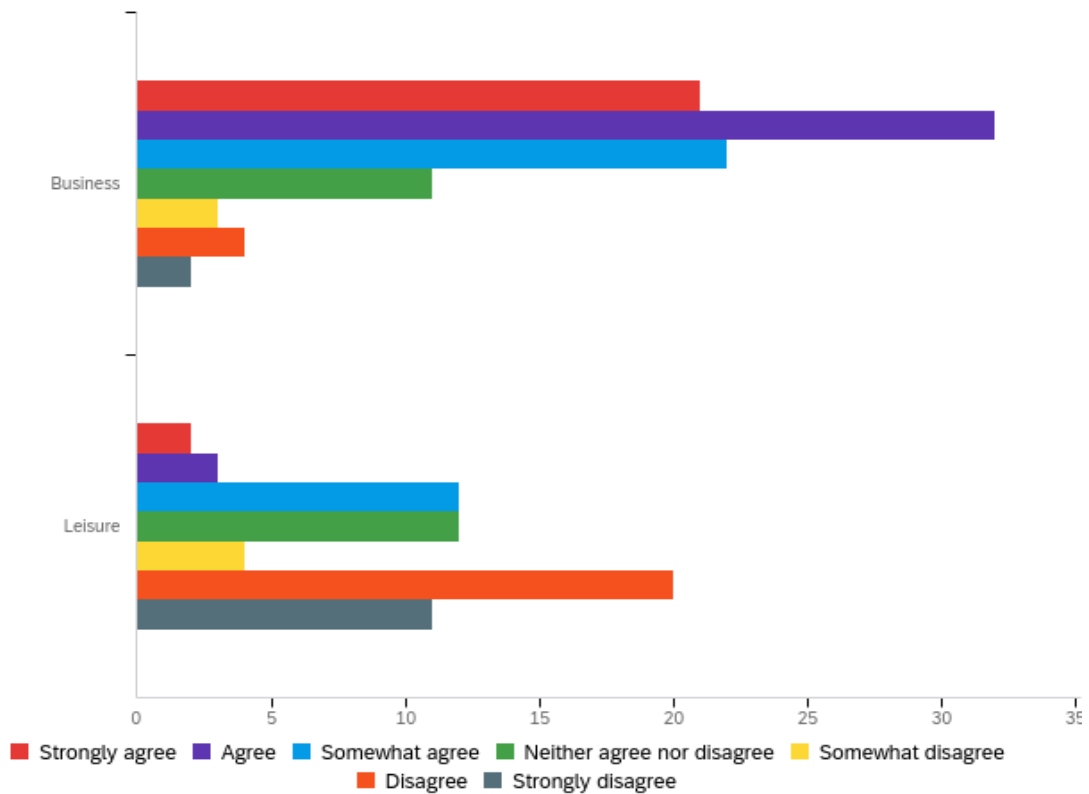


Figure 33 - I've heard about airline companies' CSR activities and practices with distinction between business and leisure travelers

### Intention to behave more responsibly → Purchase Intention

Our results show that the intention to behave more responsibly has a positive and significant effect on consumer purchase intention ( $t=16.456, p<0.01$ ). This supports the fourth hypotheses *H4: A high intention to behave more responsibly increases purchase intention*. This indicated that both personal norms and awareness of CSR, by positively influencing the intention to behave in a more responsible manner, have contributed to increase the consumers' purchase intention.

Analysing our measurements which affect the intention to behave more responsibly, we found out (Figure 34<sup>42</sup>) that most of the participants (72.33%) agreed to buy from an airline company with a socially responsible reputation even though if price and quality of the two flights are the same.

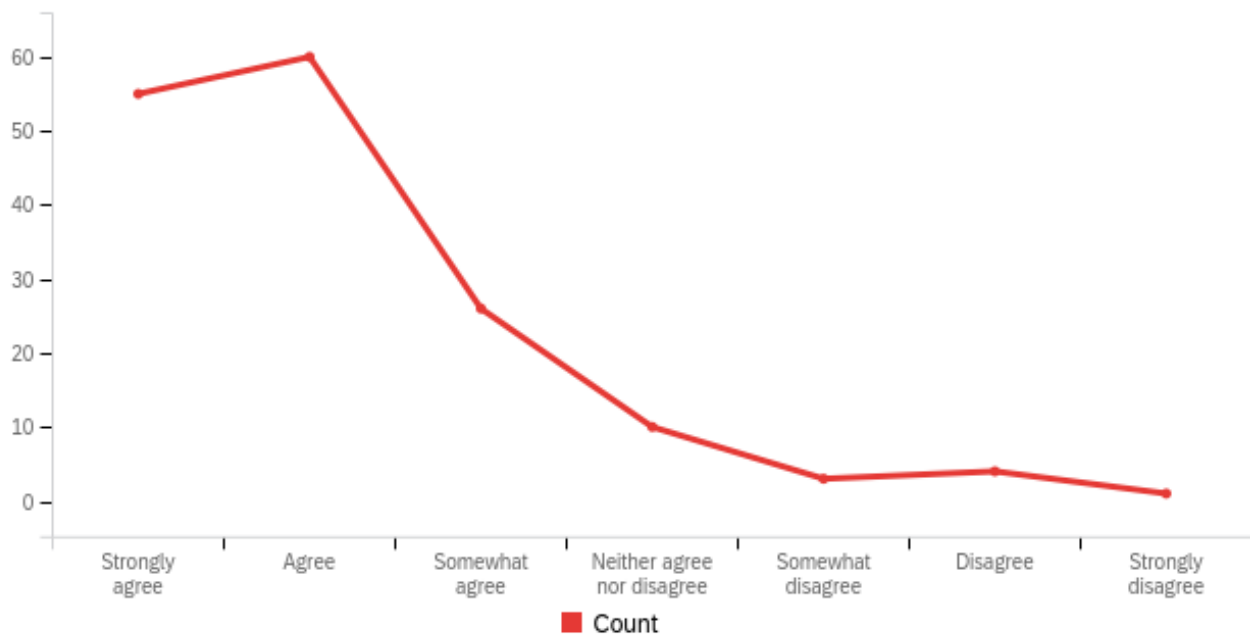


Figure 34 - If the price and quality of two flights are the same, I would buy from the airline company with a socially responsible reputation.

Additionally, people were asked to state their willingness to pay extra to compensate for the environmental damage of their flight, it was interesting to notice the difference between business and leisure travellers. Taking into consideration a mean of 2.92 (with a minimum of 1 - strongly agree and a maximum of 7 - strongly disagree), business travellers' willingness to pay extra to compensate for the impact of their flight is higher than that of leisure travellers. Although, 95 participants mostly fly for business reasons and 65 for leisure ones, 62.10% of the business travellers considerate to pay for carbon offsetting but only 28.12% of leisure travellers agree to pay more (Figure 35<sup>43</sup>).

<sup>42</sup> Source: Qualtrics Report

<sup>43</sup> Source: Qualtrics Report

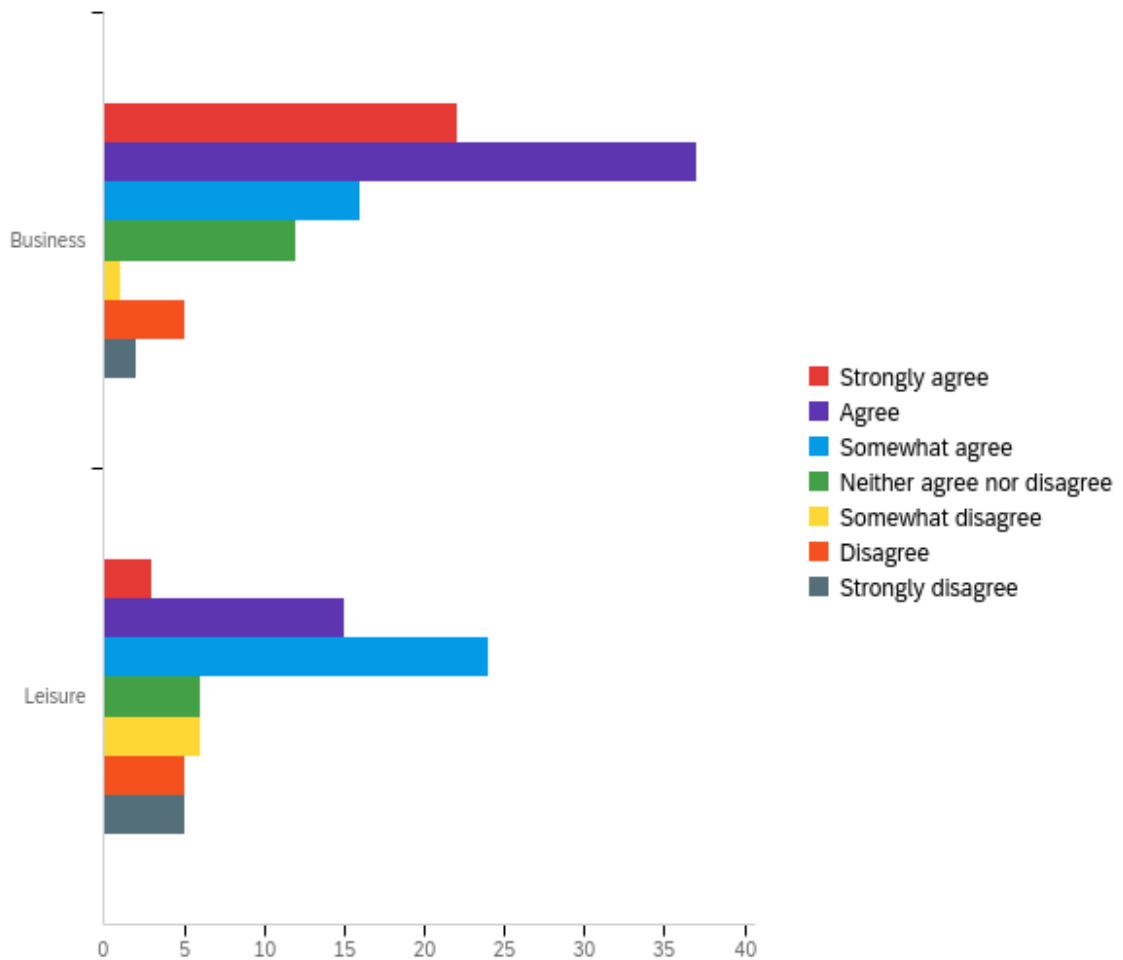


Figure 35 - I'm willing to pay extra to compensate for the environmental damage of my flight

In order to understand the CSR's impact level on consumers' purchasing decisions, participants were asked to rank by level of importance (Figure 36<sup>44</sup>) some factors including: price, quality, marketing reputation, CSR reputation of the organization and social influences (friends, family, favourite brands).

As can be seen from our results, price was definitely the first in line as determinant of consumers' purchasing decision, 76 participants (47.80%) out of 159 put price at the first place. Consequently, we denote that price is still considered as the most important factor that influences purchasing decision. Quality and marketing reputation were ranked in the second and third positions, respectively.

<sup>44</sup> Source: Qualtrics Report

It has been noticed that only 24 people (15.09%) chose CSR reputation in first place and 37.74% of the participants positioned CSR at the fourth place. CSR has a low impact on consumer decision making compared with other factors such as price, quality and marketing reputation in the purchasing process.

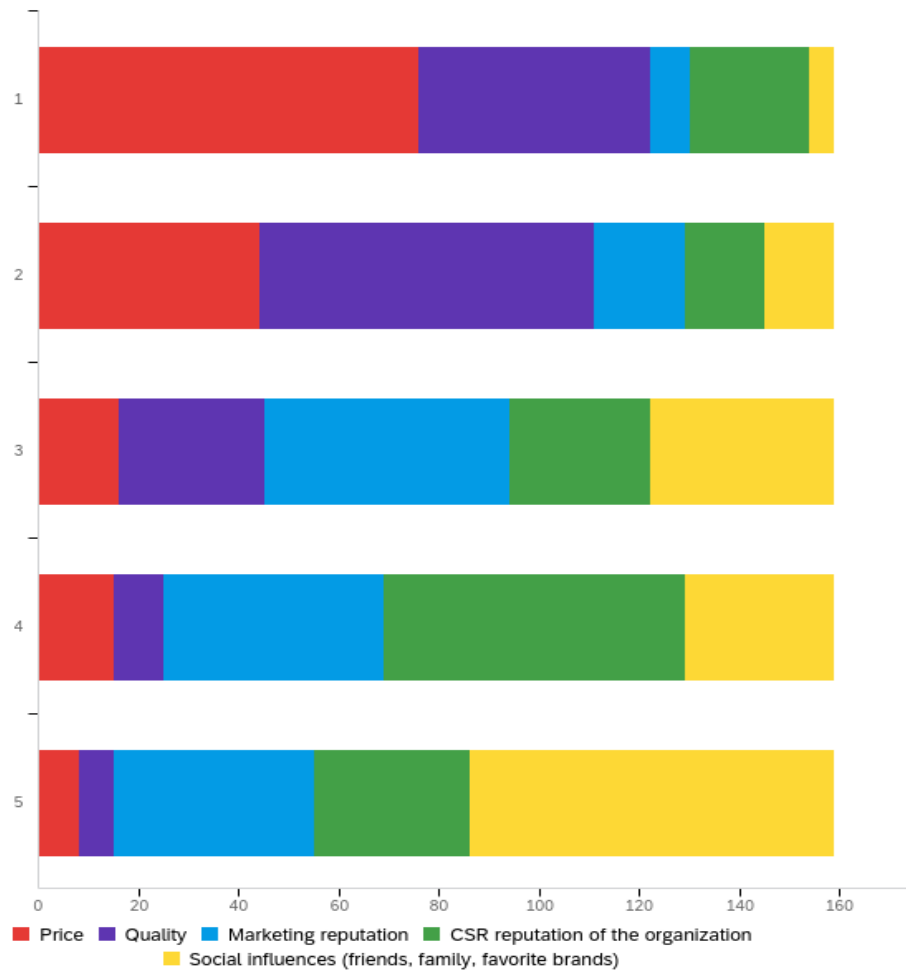


Figure 36 - Purchasing behaviour factors' ranking

To have a general idea of consumers' behaviours, respondents were asked to indicate their level of agreement in respect of the companies' way of acting towards the environment, employees, ethics and social projects. Overall the mean was around 2.5, between agree and somewhat agree (Figure 37<sup>45</sup>). People are interested in companies which treat well their employees, support social projects, behave ethically and that are committed to reduce their negative environmental impact.



Figure 37 - Behaviour analysis

<sup>45</sup> Source: Qualtrics Report

Additionally, the participants were asked if this survey had encouraged them to start practicing sustainability, act more responsibly and deepen their knowledge on CSR in the aviation industry. As Figure 38<sup>46</sup> shows, about 60% of the participants are willing to behave in a more responsible way and enrich their knowledge on the aviation industry's CSR practices. Overall, consumer awareness significantly influences the intention to behave more responsibly and, if people are correctly informed on the issue, they will support corporate social responsibility.

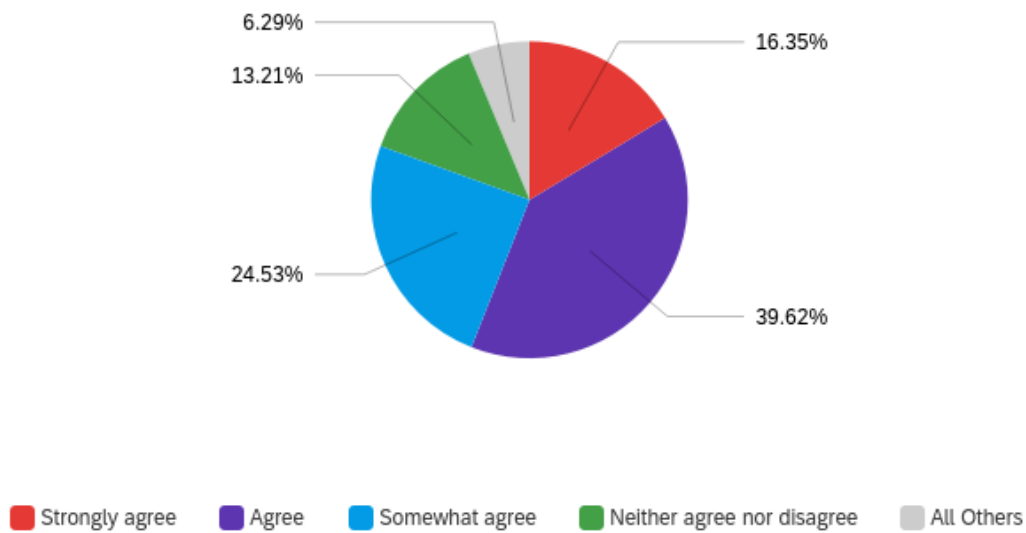


Figure 38 - This survey has encouraged me to start practicing sustainability and act more responsibly

<sup>46</sup> Source: Qualtrics Report



## CONCLUSIONS

As understood from the literature review, awareness of the environmental impacts of human activity has increased significantly over the last 30 years and corporate social responsibility activities began to spread across many companies.

The concept of Corporate Social Responsibility arises from the awareness that the company can both aim at profit and maximizing value for shareholders, and have duties towards the society, practically it concerns the way in which companies implement specific policies aimed at achieving the highest level of sustainability possible.

The research specifically analyses consumer awareness of CSR in the aviation industry, a sector nowadays under pressure as it highly impacts the environment due to noise and carbon dioxide emissions. In order to reduce its impact on climate change, the aviation sector is taking adequate measures to implement global strategic actions that will contribute to sustainable business, including technological innovation, the use of sustainable aviation fuels, operational improvements, infrastructural efficiencies and carbon offsetting. Carbon offsets are financial donations to projects in different sectors that help minimize carbon dioxide emissions or promote new renewable energy projects in an attempt to compensate for the harm your flight is bringing to the earth (Stewart, 2018).

A survey has been sent out in order to understand the relationship between consumer's perceived CSR, personal norms, awareness of CSR initiatives, intention to behave more responsibly and willingness to pay for carbon offsetting. The results showed that perceived CSR had no significant relationship with the intention to behave in a more responsible manner, on the other hand personal norms and awareness of CSR were significant influencing factors. Finally, intention to behave more responsibly together with the demographic control, reason for flying, highly influenced consumers' purchasing intention.

Participants feelings and knowledge on the aviation industry's environmental impact were analysed in order to answer to our first research question:

*Does consumer awareness of CSR initiatives makes consumers behave more responsibly?*

Surprisingly, the majority of people interviewed were aware of airlines CSR practices. Nevertheless, the concept of CSR in the aviation industry is still new in people's mind due to a lack of awareness about the environmental effects of aviation and a lack of information about benefits of CSR practices such as carbon offsetting (Lu and Wang, 2018).

Furthermore, it is important to note that, of the 159 respondents, only 23.9% do not know the environmental impacts of the aviation industry and 42.12% have not heard about airline CSR practices. CSR actions and practices have a direct impact on the public image of the organization and people are gradually understanding it.

Hearsay and good information sharing will help to enrich consumer's knowledge on this issue. In addition, companies must educate air travellers by explaining the benefits that would arise if people, together with organizations, behaved in a socially responsible way. Consumer awareness of CSR together with personal norms, including the eagerness of participants to act in a climate smart way to improve the earth's environment, make people behave more responsibly and increases the willingness to pay for airline CSR practices such as carbon offsetting, charitable giving, investing in renewable energy and sustainable resources, etc.

Results show a potential positive answer for research question number two,

*Does the intention to behave more responsibly increases the willingness to pay for carbon offsetting?*

Being socially responsible will become a greater issue in the years to come and, following the Sustainable development goals, will absolutely lead us to save the planet, live in a cleaner world and keep the world healthy for future generations. People are everyday more gaining awareness on CSR and through this, responsible behaviour and willingness to pay will increase positively. There is still, however, a difference between attitude and behaviour. Previous researches indicated that a better understanding of air travellers perspectives on aviation and climate change would address the inconsistency between their environmental and air travel concerns (Lu and Wang, 2018).

Although price has been placed as the first factor influencing purchasing behaviour, thinking about the impact of CSR in general, when it comes to choosing a better service or product at the same time, the good image created by CSR becomes a very important incentive. In fact, by measuring travellers' attitudes toward carbon offsetting and their willingness to change their travel behaviour, it emerged that more than 60% of the consumers will pay more attention to eco-friendly airline companies when buying a ticket and pay extra to compensate for the environmental damage of their flight. Most of the respondents, including both leisure and business travellers, have demonstrated a positive attitude to start practicing sustainability and act more responsibly after participating at the survey.

To sum up, CSR can be seen as a competitive advantage as investing in CSR is a long-term success investment and a way to improve our everyday lives. If each single individual is sensitized, the whole community would benefit from this and the planet would be safer.

## ANNEX A

### CONSUMER AWARENESS OF CSR IN THE AVIATION INDUSTRY

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#### Start of Block: Welcome

Q34 Welcome to the survey on Corporate Social Responsibility in the Aviation industry and thank you for participating!

The survey aims at investigating the customer awareness of different CSR initiatives in the airline industry and your answers are important for the objective of the research. The survey should take no more than 10 minutes to complete. Please be assured that the survey is **anonymous**, your answers will be kept *confidential* and will be analyzed in an aggregate form only.  
Let's get started!

#### End of Block: Welcome

---

#### Start of Block: Screening Questions

Q1 Have you taken a plane in the last 5 years?

- Yes (1)
  - No (2)
- 

Q2 Have you ever thought about how air travel affects the environment?

- Yes (1)
- No (2)

#### End of Block: Screening Questions

---

#### Start of Block: Exit survey

Q35 We're sorry. Unfortunately, the responses that you have provided do not meet qualifications for this survey. We would like to thank you for your time and availability and look forward to working with you again in the future.

#### End of Block: Exit survey

---

## Start of Block: Demographics

### Q3 Age

- Under 18 (1)
  - 18 - 24 (2)
  - 25 - 34 (3)
  - 35 - 44 (4)
  - 45 - 54 (5)
  - 55 - 64 (6)
  - 65 - 74 (7)
  - 75 - 84 (8)
  - 85 or older (9)
- 

### Q4 Gender

- Male (1)
  - Female (2)
- 

### Q5 What country do you come from?

---

---

Q6 What is your level of education?

- Less than high school (1)
  - High school graduate (2)
  - Some college (3)
  - Bachelor degree (4)
  - Master degree (5)
  - Doctorate (6)
- 

Q7 Which of the following best describes your current employment status?

- Employed full time (1)
  - Employed part time (2)
  - Unemployed looking for work (3)
  - Unemployed not looking for work (4)
  - Retired (5)
  - Student (6)
  - Disabled (7)
-

Q8 Please indicate your annual income

- Less than €10,000 (1)
  - €10,000 - €19,999 (2)
  - €20,000 - €29,999 (3)
  - €30,000 - €39,999 (4)
  - €40,000 - €49,999 (5)
  - €50,000 - €59,999 (6)
  - €60,000 - €69,999 (7)
  - €70,000 - €79,999 (8)
  - €80,000 - €89,999 (9)
  - €90,000 - €99,999 (10)
  - €100,000 - €149,999 (11)
  - More than €150,000 (12)
- 

Q9 Please indicate your flight frequency

- Once a week or more (1)
  - 2-3 times a month (2)
  - Once a month (3)
  - A few times a year (4)
  - Once a year or less (5)
  - Never (6)
-

Q12 Do you fly more for business or leisure?

- Business (1)
- Leisure (2)

End of Block: Demographics

---

Start of Block: Corporate Social Responsibility

Q34 CSR is said to be “a set of voluntary policies, programmes and other observable initiatives targeting a firm’s societal relationships that go beyond what is required by law”.

-----

Q13 I am well informed on the environmental impact of aviation.

- Strongly agree (1)
  - Agree (2)
  - Somewhat agree (3)
  - Neither agree nor disagree (4)
  - Somewhat disagree (5)
  - Disagree (6)
  - Strongly disagree (7)
- 

Q14 How important is it to you that companies operate on a socially responsible level?

- Extremely important (1)
  - Very important (2)
  - Moderately important (3)
  - Slightly important (4)
  - Not at all important (5)
-



Q16 What makes a company responsible in your opinion?

- Following legal requirements (1)
- Offering good quality products (2)
- Being environmentally friendly (3)
- Getting involved in social campaigns (4)
- Treating employees with respect (5)

**End of Block: Corporate Social Responsibility**

---

**Start of Block: Personal Norms**

Q18 I think it is important to have in mind the impact that my everyday behavior has on climate.

- Strongly agree (1)
  - Agree (2)
  - Somewhat agree (3)
  - Neither agree nor disagree (4)
  - Somewhat disagree (5)
  - Disagree (6)
  - Strongly disagree (7)
-

Q19 It feels good for the conscience to act in a climate smart way.

- Strongly agree (1)
  - Agree (2)
  - Somewhat agree (3)
  - Neither agree nor disagree (4)
  - Somewhat disagree (5)
  - Disagree (6)
  - Strongly disagree (7)
- 

Q20 I would feel enthusiastic if I could improve the earth's environment.

- Strongly agree (1)
- Agree (2)
- Somewhat agree (3)
- Neither agree nor disagree (4)
- Somewhat disagree (5)
- Disagree (6)
- Strongly disagree (7)

**End of Block: Personal Norms**

---

**Start of Block: Awareness of CSR**

Q21 I can explain the environmental impacts of aviation.

- Strongly agree (1)
  - Agree (2)
  - Somewhat agree (3)
  - Neither agree nor disagree (4)
  - Somewhat disagree (5)
  - Disagree (6)
  - Strongly disagree (7)
- 

Q22 I read aviation news and websites to find out about aviation's environmental impacts.

- Strongly agree (1)
  - Agree (2)
  - Somewhat agree (3)
  - Neither agree nor disagree (4)
  - Somewhat disagree (5)
  - Disagree (6)
  - Strongly disagree (7)
-

Q23 I've heard about airline companies' CSR activities and practices.

- Strongly agree (1)
  - Agree (2)
  - Somewhat agree (3)
  - Neither agree nor disagree (4)
  - Somewhat disagree (5)
  - Disagree (6)
  - Strongly disagree (7)
- 

Q24 Please name CSR activities that you've heard.

---

**End of Block: Awareness of CSR**

---

**Start of Block: CSR effects on customer purchasing decision**

Q26 Do you agree or disagree with the following statements?

	Strongly agree (1)	Agree (2)	Somewhat agree (3)	Neither agree nor disagree (4)	Somewhat disagree (5)	Disagree (6)	Strongly disagree (7)
I will avoid buying a ticket from an airline that treats their employees unfairly (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am willing to buy a ticket from an airline that is committed to reduce negative environmental impact (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I will avoid buying a ticket from an airline that behaves unethically (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am willing to buy a ticket from an airline that supports social projects (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q23 Please rank the following options in order of the importance they have on your purchasing behaviour:

- \_\_\_\_\_ Price (1)
- \_\_\_\_\_ Quality (2)
- \_\_\_\_\_ Marketing reputation (3)
- \_\_\_\_\_ CSR reputation of the organization (4)
- \_\_\_\_\_ Social influences (friends, family, favorite brands) (5)

---

Q24 I am willing to pay extra to fly an airline which operates in a socially and environmentally responsible manner.

- Strongly agree (1)
  - Agree (2)
  - Somewhat agree (3)
  - Neither agree nor disagree (4)
  - Somewhat disagree (5)
  - Disagree (6)
  - Strongly disagree (7)
- 

Q25 If the price and quality of two flights are the same, I would buy from the airline company with a socially responsible reputation.

- Strongly agree (1)
  - Agree (2)
  - Somewhat agree (3)
  - Neither agree nor disagree (4)
  - Somewhat disagree (5)
  - Disagree (6)
  - Strongly disagree (7)
-

Q26 I avoid buying tickets from an airline which is known for negative environmental impact.

- Strongly agree (1)
  - Agree (2)
  - Somewhat agree (3)
  - Neither agree nor disagree (4)
  - Somewhat disagree (5)
  - Disagree (6)
  - Strongly disagree (7)
- 

Q27 I avoid buying tickets from an airline which is known for poorly treating its employees.

- Strongly agree (1)
- Agree (2)
- Somewhat agree (3)
- Neither agree nor disagree (4)
- Somewhat disagree (5)
- Disagree (6)
- Strongly disagree (7)

**End of Block: CSR effects on customer purchasing decision**

---

**Start of Block: Intention to behave more responsibly**

Q28 Carbon offsets are financial contributions to projects that help reduce CO2 emissions in various industries, or encourage new sustainable energy projects in an effort to balance out the damage your flight does to the planet.

---

Q29 I'm willing to pay extra to compensate for the environmental damage of my flight.

- Strongly agree (1)
  - Agree (2)
  - Somewhat agree (3)
  - Neither agree nor disagree (4)
  - Somewhat disagree (5)
  - Disagree (6)
  - Strongly disagree (7)
- 

Q30 I will pay more attention to eco-friendly airline companies when buying a ticket.

- Strongly agree (1)
  - Agree (2)
  - Somewhat agree (3)
  - Neither agree nor disagree (4)
  - Somewhat disagree (5)
  - Disagree (6)
  - Strongly disagree (7)
-



Q31 I will deepen my knowledge on CSR in aviation industry and inform other people about the issue.

- Strongly agree (1)
  - Agree (2)
  - Somewhat agree (3)
  - Neither agree nor disagree (4)
  - Somewhat disagree (5)
  - Disagree (6)
  - Strongly disagree (7)
- 

Q32 This survey has encouraged me to start practising sustainability and act more responsibly.

- Strongly agree (1)
- Agree (2)
- Somewhat agree (3)
- Neither agree nor disagree (4)
- Somewhat disagree (5)
- Disagree (6)
- Strongly disagree (7)

**End of Block: Intention to behave more responsibly**

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