# INFLUENCE OF AIRLINES' ENVIRONMENTAL ACTIVITIES ON PASSENGERS

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ABSTRACT

This paper discusses the question whether passengers are fully aware of the efforts taken by airlines to protect the environment and if this knowledge in turn influences potential customers in choosing a certain airline. The topic is analysed by taking the case of Swiss International Air Lines (SWISS) passengers at Zurich Airport. It was found that these efforts are not apparent to passengers. However, passengers are interested in an airline's environmental responsibility. It was also found that the airline's action is appealing to customers. Nevertheless, price plays an important role for passengers when choosing an airline even in the case of it being more environmentally-aware. Furthermore, there is a relation between the environmental activities of an airline and the brand image. The brand of the airline is strengthened if it is engaged in environmental activities and communicates them efficiently to passengers.

Keywords: Customer value, airlines, environment, emissions, attitude, brand value

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## 1. INTRODUCTION

Climate change is one of the most serious problems the world faces today. The aviation industry has been in the spotlight for its contribution to global warming. Yet this has not brought the demand for air travel to a halt. The rising demand has been met by governments imposing regulations and international organizations issuing recommendations. Airlines have adapted to this eco-minded trend. Passengers are given the opportunity to offset their $CO_2$ emissions. Furthermore, airlines have engaged in corporate environmental responsibility to reduce their impact on global warming. This begs the question whether passengers are fully aware of the efforts taken by airlines to protect the environment and if this knowledge influences potential customers in choosing a certain airline.

This paper addresses the subject of customer perception and the impact of environmental activities by airlines on the airlines' image and the resulting value for air travellers. Furthermore, the research examines whether airline passengers accept the increase in price for environmental protection activities by airlines and whether airlines can even enhance their brand value by protecting the environment and communicating it.

Hence, the underlying research with Swiss International Air Lines travellers at Zurich Airport answers the following general research questions:

- Are airline customers attracted by measures taken by an airline for protecting the environment?
- Do measures of an airline for protecting the environment have a positive influence on the brand image of the airline?

## 2. LITERATURE REVIEW

### 2.1 Industry Measures for Protecting the Environment

In the past years airlines have improved the efficiency of their aircrafts and operations but the overall emissions of airlines have still been growing (IATA 2009). IATA (2009) has addressed this issue by coming up with a four pillar strategy consisting of measures taken in four areas (technology, infrastructure, operations, economy) which have been agreed on by all IATA members. The goal of these measures is to achieve carbon neutral growth by 2020. In order to measure the achievements, IATA has set three targets to be met (improving fuel efficiency by 25% by 2020, operating with 10% biofuel by 2017, reducing $CO_2$ emissions by

50% until 2050). From a technological perspective airlines can meet the targets by buying new and more efficient aircrafts with new engines and by using bio fuels. In the area of infrastructure and operations airlines can improve by flying direct routes, following economical flight procedures and reducing the weight of the aircrafts by optimizing the fuel weight and reduce other items carried. From an economic perspective there are market based instruments (Mankiw & Taylor, 2006) such as the Pigouvian tax and emission trading scheme (ETS). The ETS was introduced in the beginning of 2012 and as a result has generated total emission cost of, for example in the case of Lufthansa, of EUR 251.3 million and is expected to increase to EUR 345.1 million until the year 2020 (Vespermann & Wittmer, 2010). Furthermore, there are voluntary climate care contributions or higher fares which include climate care contributions. The economic measures (excluding the voluntary climate care contribution) have an impact on airlines' costs. This enters into the question of whether a value for passengers can be created for which they are willing to pay more.

*2.2 Passengers' Environmental Sensitivity in an Economic Crisis*

In the light of the economic crisis, one might not expect the issue of environmental protection to be a top priority. The economic crisis has shattered the confidence of many consumers in the economic systems. However, governments and the private sector are reflecting on their decisions taken in the past and deciding on the best way to approach the future challenges awaiting them. The public has taken great interest and concern in the matter as it has left no one untouched. Therefore society, in general, also seems to reflect on their values and moral standards and is speaking up. Voices have been raised and opinions have been stated on different ways to move forward. For instance, the automobile industry has slumped leaving the tax payers to bail out the industry in countries, such as the United States (US). Due to this fact, governments have requested more environmentally friendly cars (The Economist,19 May 2009) Hence climate change and which measures can be taken to protect the environment have been brought back to the table.

However, the willingness of passengers to pay for an environmentally-aware airline is doomed by the state of economy. Due to the current economic crisis the environmental sensitivity of passengers may be questioned. The Environmental Kuznets Curve (EKC) can be drawn on to explain to relation between the state of economy and the willingness of passengers to make a contribution to the environment. This curve derives from the Kuznets Curves (1955) which describes the "distributional inequality to per capita income" (Vogel, 1999). The EKC is an "inverted-U-shape curve" which depicts the correlation of per capita

income and environmental pollution (Bretschger & Pittel, 2007, Dinda, 2004). Kuznets (1955) argues that at the beginning a small economy has a minimal impact on the environment. As the economy prospers, so does the impact on the environment. However, this may not mean that the economy is affluent enough to tackle the environmental problems and basic needs may come first. As the income per capita grows further, the environmental impact decreases. The reduction can be put down to stricter governmental regulations, newer and more sustainable technologies, but also more information and awareness from the population in general (Bretschger & Pittel, 2007, Dinda, 2004).

Narrowing the theory down to the individual traveller in the current economic crisis protecting the environment may not come first on the list of priorities. Although Switzerland and the surrounding European nations are counted among the advanced economies the current state of economy has shifted the desires of individuals back to more basic needs. This piece of information will also be taken into consideration when analysing the findings of the empirical contribution of this paper.

*2.3 Customers' Attraction and Brand Image via Corporate Environmental Responsibility (CER)*
CER builds on the corporate identity (CI) of a company which is the company's self-perception whereas the corporate image is how the outside perceives the firm (Birkigt & Stadler, 2002). CER is a "long-term action which makes the environment a core element of corporate strategy" (Esty & Winston, 2006). The communication of CER must be visible and comprehensible for the customer if the image of the company should be influenced by CER. Therefore an airline must provide its potential passengers with sufficient visible and accessible information. In doing so, customers may see the airline's CER as attractive and it may influence their buying behaviour. Environmental activities by an airline can then become an influential factor when passengers evaluate their options in a flight ticket buying process (Anholt, 2007, Kreuzpaintner, 2003, Morgan & Pritchard, 2000). In the long term the information about environmental care activities by an airline can positively influence the brand image which further attracts customers and increases the financial performance (Klassen & McLaughlin 1996).

Piñeiro et al. (2006) define customer attraction "as the company's ability to retain customers through interesting products, attractive brands, a strong reputation, customer service and/or particular corporate activities" (p. 136). Therefore they make reference to brand value and reputation. As part of the decision-making process motivation is the trigger to contemplate a

purchase whereas consumer value is the evaluation of the purchase decision taken. "[…] [Motivation] occurs when a need is aroused that the consumer wishes to satisfy" (Solomon, 2007, p. 118). Therefore in the case of air travel, motivation could be a holiday or business trip leading the passenger to book a flight. Consumer value, on the other hand, is the net benefit in his or her eye between having the flight ticket and what he or she had to give up to purchase it, such as time or money (Bieger, et al. 2007). Furthermore, Brodie et al. (2009) point out that consumer value in the case of a service, such as air travel, is shaped by the person's brand and company image, and, on the other hand, his or her trust in the employees and the company. Consequently, the brand personality of an airline may have an influence on the consumer's perception and thus on his or her decision-making process. Additionally, as air travel is a service, the way in which the employees perceive their airline and thus bring the brand message across can also play a role in persuading a person to choose their airline.

Furthermore, it is a fact that airline passengers are highly price sensitive (Gebel, 2004; Bieger et al. 2007). For instance, even though environmental consciousness is held high in many countries only a small number of travellers make a climate care contribution when flying (Läubli, 2009). Wagner (2003) argues "that attitudes or concern can only be considered a reliable variable for the prediction and explanation of behaviour if attitudes are issue specific". Thus climate change may generally concern passengers but as this attitude is not issue-specific towards 'environmentally friendly transportation' it does not influence their consumer behaviour in this case (Wagner, 2003). On the other hand, a study on environmental issues and marketing activities found that people who express greater conviction in their feelings regarding environmentally responsible behaviours such as recycling show greater consistency between attitudes and behavioural intentions (Solomon, 2007, Esty & Winston, 2006).

PricewaterHouseCoopers (PwC) support that a company's brand has increased in significance. According to a survey conducted in 2005 by PwC a company's brand value can account to nearly half of a firm's actual value. Furthermore, it was stated that a company's success is highly dependent of its brand value (PwC, 2006). "Reputation can be regarded as reflecting intangible organizational capital, which is founded on, and mediated by the concept of trust respect and social capital" (Aula & Mantere, 2008). Therefore, a company's reputation plays a vital role in making a company's brand identity consistent with the brand image the consumers hold. Companies thus place more importance on retaining a good

reputation. The reputation cannot be controlled by a company alone but is shaped in the interaction with the public. Therefore communication is a vital tool for a company to build up a good reputation. In this sense branding has gained in importance over the past years. There has been a change of mind in the way products are approached – from a world where actual things matter to world where the brand matters (Kreuzpaintner, 2003).

To conclude, brand image is an essential value driver for airlines to retain customers and adding value to their company. For an environmentally responsible airline reputation is vital to turn its brand image into an actual operational environmental value driver.
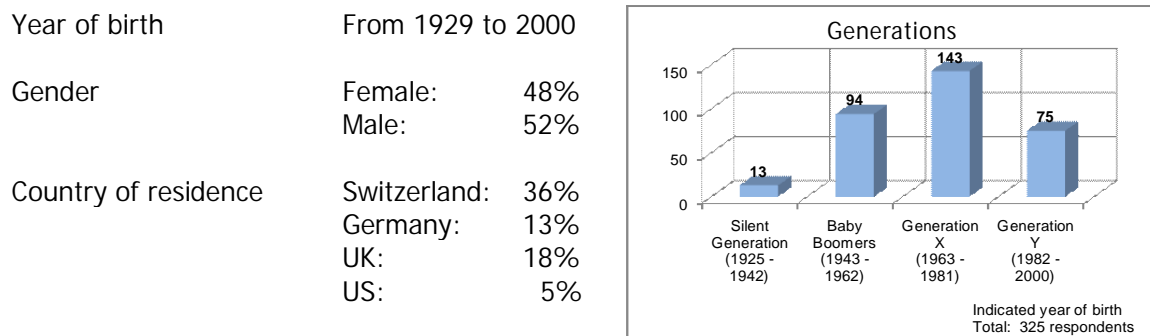
## 3. EMPIRICAL CONTRIBUTION

Literature research has outlined measures and opportunities the airline industry has at hand to face environmental challenges by reducing its impact and by strengthening its image. The primary data collection, in a first step, involved gaining a deeper insight into how marketing experts from different airlines see the matter of customer attractiveness in connection with an airline's CER. A questionnaire (Appendix 1) was laid out with eight open questions concerning the main issues addressed in the literature review.

In a second step, the gained information was drawn in order to establish a questionnaire for airline passengers (Appendix 2), thereby also approaching the problem from the consumer's perspective. The gained knowledge from the expert interviews and the literature was used to find evaluation factors to include in the passengers survey from a practical and academic perspective. The passenger survey was carried out at Zurich Airport in April 2009 with passengers waiting at the gate to board a SWISS flight. A total of 327 passengers participated in the survey. As 13.47 million passengers fly with SWISS every year the sample size is not representative in its size. Nevertheless, the data analysis and findings are intended to give an impression of the general view passengers may hold on the measures an airline takes to protect the environment.

The data has been analysed in a first step by looking at Frequencies to provide an overview of the sample.

## Figure 1: Demographic Information of the Participants

| | | |
|---|---|---|
| Year of birth | From 1929 to 2000 | |
| Gender | Female: | 48% |
| | Male: | 52% |
| Country of residence | Switzerland: | 36% |
| | Germany: | 13% |
| | UK: | 18% |
| | US: | 5% |



Generations

Indicated year of birth
Total: 325 respondents

The demographic information shows, that passengers of all ages, both genders, and different countries participated in the survey. To give an impression of the age pattern of the participants they were put into categories of generations.

## Table 1: Air Travel Behaviour of Respondents

| | | |
|---|---|---|
| Number of flights per year | Min. once per week | 2% |
| | Min. once per month | 24% |
| | Min. once every half year | 40% |
| | Min. once per year | 21% |
| | Less than once per year | 13% |
| Class | Business | 8% |
| | Economy | 92% |
| Reason of air travel | Business | 28% |
| | Personal | 72% |

The overview of the participants' air travel behaviour shows that most passengers who took part in the survey fly more than once a year and more often for personal reasons in Economy Class. The ratio between Business Class and Economy Class in the passenger survey results in 8 % Business and 92 % Economy Class. A reason why the number of business travellers is low could be the fact that the survey was conducted at the gate and many Business Class passengers stayed at the business lounge right until boarding started. Of the 27 passengers flying business class 17 flew for a personal reason and 10 for business reason.

To answer the questions whether a customer perceives an airline as environmentally-aware, and whether this is also a factor of motivation to choose this airline a cognitive approach was taken. "Cognitive refers to understanding and learning. It addresses the question of how understanding occurs, and how in turn understanding affects behaviour" (Wagner, 2003).

Therefore, in the given case, the cognitive approach helps to determine which attributes of an environmentally-aware airline passengers are aware of and understand. Furthermore, it also examines whether, by knowing and understanding that an airline is environmentally aware, a passenger's consumer behaviour is influenced. A possible cognitive approach to evaluate this is through the Fishbein Model. This model examines the relation between the beliefs and expectations towards a specific object. The main equation of the Fishbein Model is stated below (Fishbein & Ajzen, 1975):

$$A_o = \sum_{i=1}^{n} b_i \, e_i$$

$A_o =$    "attitude towards a specific object"

$i =$    "attribute"

$n =$    "number of beliefs"

$b_i =$    "belief $i$ about this specific object $o$ "

$e_i =$    "evaluation of attribute $i$ "            (Fishbein & Ajzen, 1975, p. 29)

The Fishbein Model analyses the attitude towards a specific object by multiplying the number of beliefs a person holds on a specific object times the persons evaluation of the attributes. It belongs to the group of expectancy-value models which are based on the belief that an individual's attitude towards a given object depends on the value attached to attributes of the object or its consequences, each weighted by the subjective probability that the object is associated with these attributes or consequences (Kruglanski & Stroebe, 2005). Hence, it looks at the subjective belief and attitude of each passenger towards this specific effort and by this will be able to shed light on how visible the environmental efforts are for the passengers and how appealing they are for him or her. Furthermore, it addresses the difference between issue-specific attitudes and general attitudes. Attitudes can be general or specific. In the case of this research it is the latter. A specific attitude is defined as a learned association in memory between an object and a positive or negative evaluation of that object, and attitude strength is equivalent to the strength of this association (Ajzen & Fishbein, 2005). Therefore a passenger's attitude towards an environmentally-aware airline is shaped by knowledge he has gained about this object over the past.

In addition, it should also be noted that how environmentally-aware an airline is perceived by passengers is based on emotional factors. For this reason, the cognitive approach of the Fishbein Model was seen as the most suitable option to analyse the passengers' belief and attitude towards how environmentally-friendly an airline is. The correlation coefficient, as the most straight forward way to make an analysis, on the other hand, will only be calculated between questions in which passengers could answer on the same scale but always with an eye on the overall picture by drawing up a cross-tabulation diagram. As only weak correlation could be drawn out of the analysis of the questionnaire the Fishbein Model in turn also supported or disconfirmed certain statements.

## 4. ANALYSIS AND FINDINGS

To draw a picture of how attractive an environmentally responsible airline really is for potential customers, four attributes were examined. Questions 4 to 11 (see Appendix 2) in the passenger survey where drawn up according to the Fishbein Model. The questions cover four attributes of the measures taken by an airline in general to protect the environment: Environmental protection, the possibility to make climate care contribution, modern fleet, efforts made to reduce noise emission. Therefore the four attributes make reference to IATA's four pillar strategy looking at the airline's strategy, technology, operations, and economic measures. Even though aircraft noise does not fit specifically into any of these four measures it was added as SWISS makes a strong effort in reducing noise emission. Two questions form a unit: One question concerning the belief of the passenger towards the attribute and the following question determining how appealing this attribute is for the passenger. The passenger can choose between answering with 'yes' or 'no' in the first case and 'very much' or 'not at all' in the latter, on a scale from +3 (being the best score) to -3 (being the worst score).

Table 2: Equations of Attribute Scores

| Attributes of environmentally-aware airline | Belief about specific attribute | | Evaluation of attribute | | Attitude score | |
|---|---|---|---|---|---|---|
| | Bi | Ø Bi per Pers | Ei | Ø Ei per Pers | Bi x Ei | Ø Bi x Ei per Pers. |
| Protecting the environment | 236.00 | 0.73 | 595.00 | 1.83 | 140'420.00 | 1.33 |
| Giving opportunity to make a climate care contribution | 93.00 | 0.29 | 268.00 | 0.82 | 24'924.00 | 0.23 |
| Operating with a modern fleet | 586.00 | 1.80 | 731.00 | 2.25 | 428'366.00 | 4.06 |
| Making an effort to reduce noise emission | 257.00 | 0.79 | 631.00 | 1.94 | 162'167.00 | 1.53 |
| | | | | | | |
| **SUM** | 1'172.00 | 3.60 | 2'225.00 | 6.84 | 755'877.00 | **7.15** |

The beliefs about the four specific attributes (questions 4, 6, 8, 10 in the questionnaire in appendix 2) were determined by calculating the mean of them (=Ø $B_i$ per Pers.). For the

same attributes (questions 5, 7, 9, 11 in the questionnaire in Appendix 2) it was determined whether they are appealing for passengers by calculating the mean (=$\varnothing$ $E_i$ per Pers.). The attitude score, determining the passengers' attitudes towards environmental management specifically, was then calculated by multiplying $B_i$ with $E_i$. As the passenger could answer questions on a scale from -3 to +3 the attitude score could achieve on average a maximum of +9 points and a minimum of -9. The sum of all mean for all four attributes could therefore range from a maximum of +36 and a minimum of -36. In the following the mean belief score (=$\varnothing$ $B_i$ per Pers.), the mean evaluation score (=$\varnothing$ $E_i$ per Pers.), and the mean attitude score (=$\varnothing$ $B_i$ x $E_i$ per Pers.) will be looked at in detail. As seen in table 2, the respondents evaluated the four attributes overall positively. None of the four attributes was granted the maximum of +3 points. However, three out of four attributes have achieved a particularly high mean score. In the following the mean scores of the four different attributes will be elaborated on in detail.

*4.1 Belief Scores*

The belief scores show whether passengers believe that SWISS makes an effort to protect the environment. As figure 2 illustrates overall the participants of the survey acknowledged the fact that the airline has taken some measure to protect the environment.

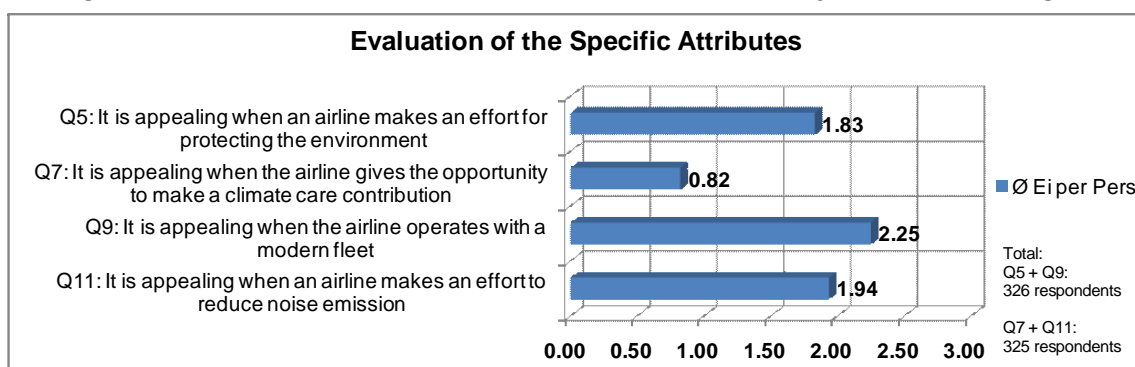Figure 2: Belief about SWISS' Environmental Awareness by Passengers
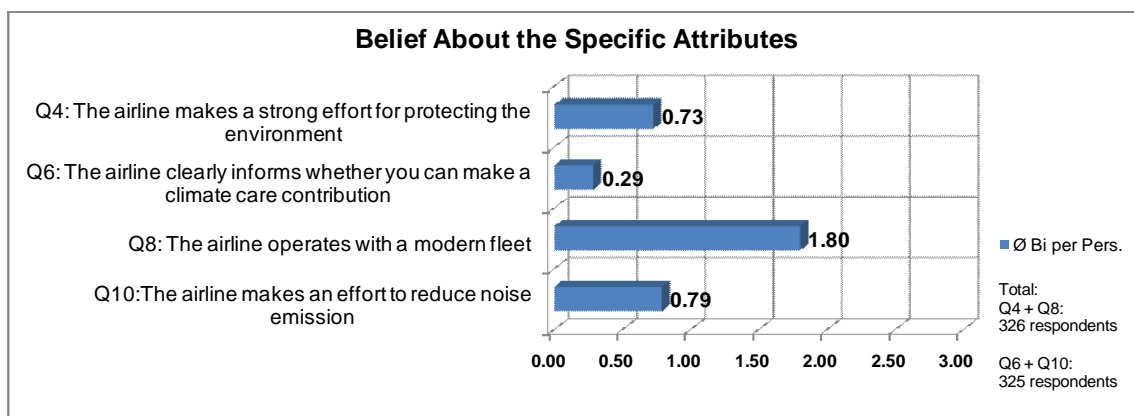


The majority of participants in the survey knew (and believed) that SWISS operates with a modern fleet. The mean of this attribute is, with 1.80 points, the highest of all four. As the standard deviation is 1.06 this result can be evaluated as overall positive, since the majority of all passengers answered this question with a positive score. This positive result may partly be put down to the fact that SWISS' new A330-300 took off for the first time during the data collection period. This event received wide media coverage. The PR approach of SWISS in

this matter might have had an influence on this attribute's evaluation. Furthermore, passengers might associate a modern fleet with higher quality and safety standards in the first place. The other three attributes were all granted lower scores on average. As the standard deviation in all three cases is high the low mean may be put down to a high number of passengers answering these questions with a negative score or with 0 points.

## 4.2 Evaluation Scores (Appealing)

The evaluation whether attributes are appealing or not shows if specific environmental protection activities by SWISS appeal to its passengers. Figure 3 illustrates that overall the measures of the airline are appealing to the respondents. Firstly, an airline operating with a modern fleet was evaluated the most positively. The mean score of 2.25 points implies that passengers find an airline that operates with a modern fleet very appealing. A modern fleet also may be perceived as safe and providing a high quality standard. Thus this specific attribute does not only benefit the environment but also the passengers. This may have had an influence on how passengers valued their answer to this attribute.

Figure 3: Evaluation of Environmental Measurements by SWISS Passengers



**Evaluation of the Specific Attributes**

Q5: It is appealing when an airline makes an effort for protecting the environment — 1.83

Q7: It is appealing when the airline gives the opportunity to make a climate care contribution — 0.82

Q9: It is appealing when the airline operates with a modern fleet — 2.25

Q11: It is appealing when an airline makes an effort to reduce noise emission — 1.94

0.00  0.50  1.00  1.50  2.00  2.50  3.00

■ Ø Ei per Pers.

Total:
Q5 + Q9:
326 respondents

Q7 + Q11:
325 respondents

Secondly, the appeal of an airline's efforts to reduce noise emission has been rated with a mean of 1.94 points. Therefore, the participants of the survey found efforts to reduce noise emission important, however, not as important as an airline that operates with a modern fleet. In addition, no clear difference in the evaluation of noise emission reduction efforts could be assessed between people living near to Zurich airport and people living further away (including the ones from other countries then Switzerland). Focusing only on the evaluation of this attribute by Swiss participants it can be said that most granted this attribute with 2 to 3 points. However, when looking at the mean value of Swiss participants it is slightly lower (1.86) than the mean value of all participants of the survey (1.94). Interestingly, the Swiss participants found this specific attribute somewhat less appealing than all participants on average. This begs the question whether the Swiss participants are

less bothered about noise emissions or if the noise reduction efforts at Zurich Airport are so effective that this attribute is perceived as part of a standard which is unquestionably expected.

Thirdly, the efforts of an airline for protecting the environment received a mean score of 1.83 points. Even though this attribute has not achieved the highest mean value it is seen as appealing by a majority of the respondents. Of 325 passengers evaluating this attribute only 18 rated it with a negative score and 23 with 0. Thus, an airline's CER is appealing to air travellers.

Fourthly, an airline giving its passengers the opportunity to make a climate care contribution was the attribute which achieved the lowest mean score, with 0.82 points. Whether an airline giving their passengers the possibility to offset their $CO_2$ emission should be seen as appealing or not was met with mixed answers. The wide-ranging attitudes towards this attribute can be noted in the high standard deviation of 1.70. The wide spread of the answers may be due to the fact that, as opposed to the other three attributes, making a climate care contribution requires for the passenger to take on a proactive role. Aula and Mantere (2008) argue that airlines giving their passengers the possibility to offset their $CO_2$ emissions are outsourcing their reputation. Or in other words, it is a burden off the airlines shoulders to establish a good reputation - and one for the passengers to take on. Nonetheless, as the positive answers of 201 passengers outweigh the 125 which weighted this attribute with 0 or a negative score it may still be seen appealing for passengers.

The proactive role of passengers in protecting the environment was analysed in seven given reasons (Figure 4), where passengers could decide whether they 'totally agree', 'agree to a great extent', 'agree to some extent' or 'disagree'. It is illustrated that 142 passengers agree at least to some extent that the state should carry the cost. The ratio of those passengers who agree to some extent or another that the state should carry the cost and those who disagree on this point is 142 to 128. This pattern of answering is repeated in the reason that the airline should carry the costs. A total of 221 passengers agree at least to some extent, outnumbering the 73 passengers that disagree on this point. The correlation coefficient (appendix 3) of the two reasons is 0.380. Therefore this indicates that there is a tendency of passengers believing that either the state or the airline should carry the cost of their $CO_2$ emissions – but not they themselves. Furthermore, answers make it evident that price matters. 144 participants of the survey agree at least to some extent that the climate care

contribution is too high and 155 passengers are not willing to offset their $CO_2$ emissions because the current state of the economy does not permit them to do so. The correlation coefficient (Appendix 3) of these two reasons is 0.440. Therefore, once again pointing out that price presents a sticking point for passengers to take up a proactive role in protecting the environment.

Figure 4: Reasons for Not Making a Climate Care Contribution
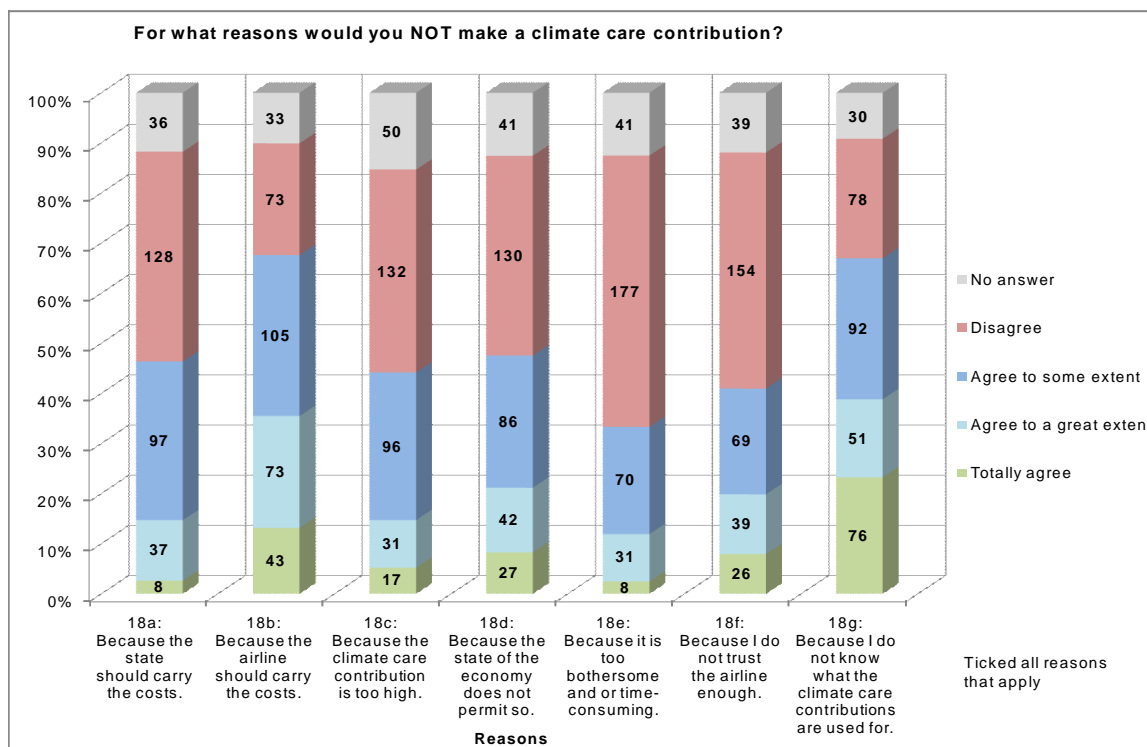


Information combined with trust is a further issue worth mentioning. Passengers agree that they do not make a climate care contribution because of the lack of information on the subject. There is a weak correlation (Appendix 3) of 0.385 among passengers that do not make a climate contribution because they do not trust the airline and others. This may imply a tendency of passengers believing that if they do not know for what their climate care contribution is used for, they do not want to trust the airline with their contribution. In studying the result one should bear in mind that of the total 327 respondents only 12 had made a climate care contribution for their flight. Therefore, reasons given in this question illustrate which measures may be needed to be taken for passengers to make a climate care contribution in the future.

As figure 5 illustrates, the importance passengers put into environmental protection is high. 130 passengers 'totally agree' that climate protection is important to them and another 91

passengers 'totally agree' that they would like to take responsibility. Most passengers agree to some extent or another with these reasons. Only 16 do not agree that climate protection is important for them and 36 passengers do not want to take responsibility. The correlation (Appendix 3) between these two reasons, 17f and 17g, is 0.467, thereby indicating that high number of the respondents feel climate protection to be important to them and would thus like to take responsibility. At this stage, one might ask why passengers therefore have not offset their $CO_2$ emissions for the present flight. The answer to this question may be found in the pattern of answers to reasons 17a and 17b. 266 passengers agree at least to some extent that they would make a climate care contribution because they know the climate protecting project. Or more precisely put, in context with the answers to the other questions: 266 passengers would offset their $CO_2$ emissions if they knew what they would contribute to. Furthermore, 239 passengers agree at least to some extent that they would make a climate care contribution if they trust the airline. Thereby, once again, the importance of trustworthiness in connection with environmental management is brought up. There is a weak correlation (appendix 3) between the reasons 17a and 17b of 0.307. Thus there was a weak tendency of passengers answering in the same way to these two reasons.

Figure 5: Reasons for Making a Climate Care Contribution
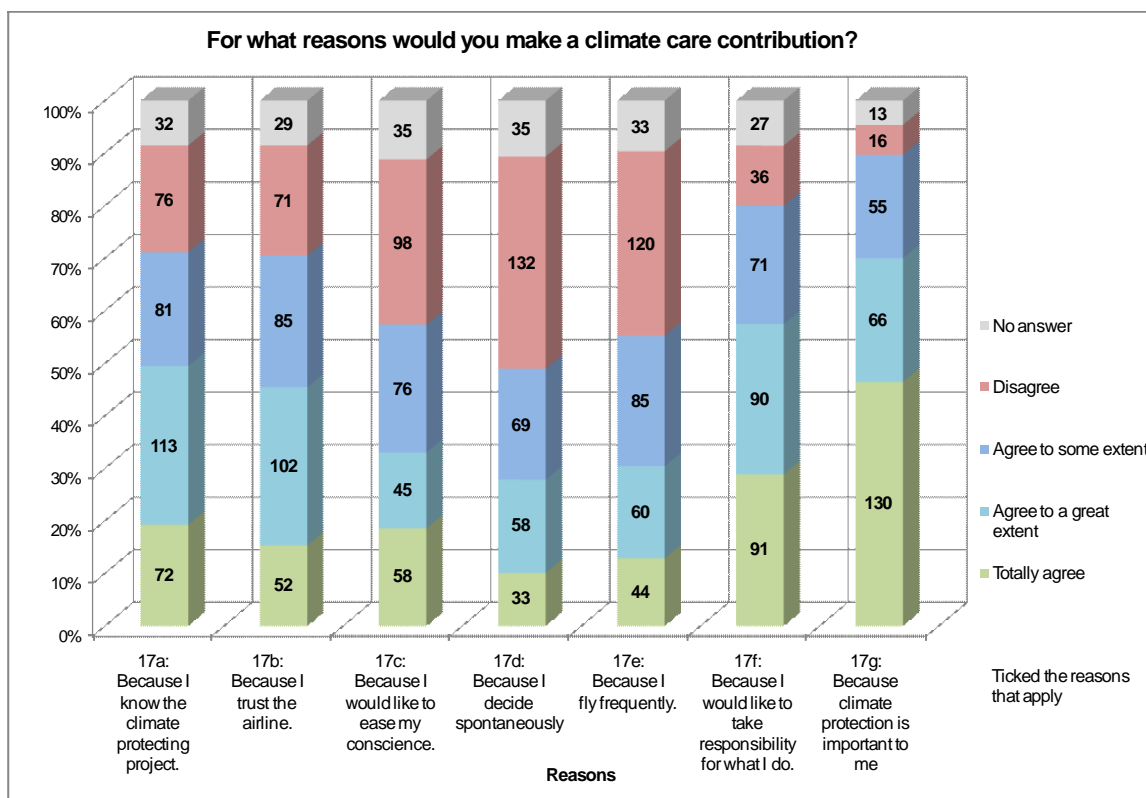
Although passengers do not take a proactive role in protecting the environment at present there is a genuine interest in the topic. Price and the lack of perceived credible information seem to be the main issues for passengers not taking a more proactive role in protecting the environment.

### 4.3 Passengers' Attitude towards Environmental Protection

The following attribute scores will shed light on passengers' attitudes towards SWISS' environmental management.

Figure 6: Attitude of Passengers towards an Environmentally-Aware Airline
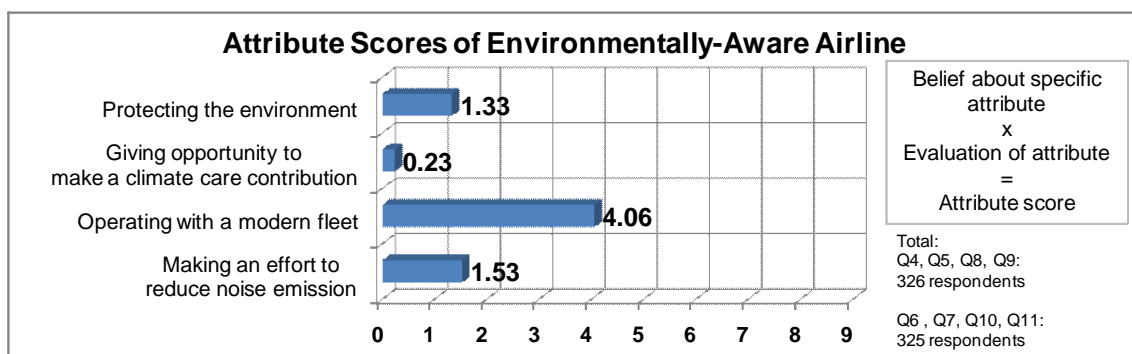


The attribute scores could range from -9 to +9. Yet as Figure 6 illustrates, all four attribute scores are positive. Thus the overall attitude towards the airlines' environmental management is a positive one. Most positively, the attitude towards operating with a modern fleet must be noted. The high attribute score of 4.06 points can be put down to both the very positive evaluation and belief of this attribute. The attitude towards the other three attributes, however, have all lost ground compared to their evaluation about whether they are appealing or not. Why passengers look upon these attributes less favourably than when evaluated generally is due to the fact that their beliefs are lower. The level of commitment on the airline's part to the four attributes which passengers would find appealing is higher than what they believe is undertaken in these fields by the airline. Thus, the effect of the passengers' relatively low awareness about the airline's measurements to protect the environment becomes evident.

### 4.4 Impact on Brand Image

There are passengers who are attracted by an environmentally-aware airline and will also expect to be so in the future therefore supporting the concept of an airline engaging in CER. Whether environmental protection activities have an impact on the brand image is dealt with

by Esty and Winston (2006) who point out that a brand may be enhanced through CER if it is perceived as truthful. Other terms in the selection which could, in any case, imply truthfulness where: authentic, competent, integrity, sincere, and trustworthy. These terms could indicate potential for an airline to be perceived as environmentally-aware in the passenger's perspective. Yet only a small number of 47 passengers brought the term trustworthy in connection with the airline. Moreover, further terms on which a true environmental-friendly brand could be built on: competent, sincere, authentic, and integrity, were thought of by 63, 11, 7, and 5 passengers, respectively. Strong terms, on the other hand, where punctuality (92), security (112), clean (105), and friendly (106). These terms rather imply that service quality is most important. Furthermore, quality was ticked 86 times which supports this analysis. Research has shown that an airline's service quality is strongly correlated with its brand image (Brodie, et al., 2009), which supports the finding of SWISS having a strong brand identity.

The question raised is whether passengers' attitude towards SWISS' brand identity has an influence on them taking on a proactive role in protecting the environment. In their study on the influence of attitudes on behaviour Ajzen and Fishbein (2005) established that general attitudes fail to determine a specific behaviour. However, Wagner (2003) expects that "strong motivations regarding environmental issues can provoke issue specific, environmentally orientated behaviour". In essence, the airline's brand identity fits with the brand image passengers hold of the airline. However, there is a shortcoming of trustworthiness which is important to build an environmentally friendly brand on. Hence terms may have been chosen which are more visible and imply a clear functional value for the customer when flying. This begs the questions whether an airline engaging in CER is indeed attractive for potential customers or if it is of no relevance what so ever.

## 5. CONCLUSIONS
This research has elaborated on the concept of airlines engaging in CER to reduce their impact on global warming. The findings of the survey showed that passengers are not fully aware of efforts taken by airlines to protect the environment. The airline is an important source of information on the topic of aviation and the environment. Measures an airline takes for protecting the environment are appealing for passengers, who show interest in an airline's environmental responsibility. Putting the findings into perspective, the activities SWISS takes for protecting the environment are not apparent for passengers but they are

generally seen as appealing. However, potential passengers may not be swayed to choose a more environmentally responsible airline when price gets in their way. Yet, an airline's efforts to protect the environment may, nevertheless, have a positive influence on their consumer behaviour. Furthermore, there is a relation between a strong brand and the perceived CER of an airline.

Therefore, customers' awareness of an airline's corporate environmental responsibility will indeed be influenced by measures an airline takes for protecting the environment, but with reservations. Firstly, awareness alone will not suffice to attract a customer. Rather, the level of knowledge needs to be raised. Secondly, the price of air travel seems to be ranked higher than the environmental responsibility of an airline.

To conclude, the airline industry faces a broad set of challenges. Yet it is using its best endeavours in leading the industry into a more sustainable future. However, the general notion of society still seems to be that eco-mindedness is not the industry's strong suit. There is a shift in society's way of thinking about environmentally responsible companies though. However, in order to fill the void between what passengers believe an airline does to protect the environment and what level they would find appealing, the industry as a whole needs to attend to the problem.

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