PASSENGERS' ATTITUDE TOWARDS ENVIRONMENTAL ACTIVITIES BY AIRLINES

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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 influences potential customers in choosing a certain airline. The topic is analyzed by taking the case of Swiss International Air Lines (SWISS) passengers at Zurich Airport. It was found that passengers are not fully aware of the efforts taken by the airline. But passengers are interested in an airlines environmental responsibility and it was found that the airlines action is appealing to customers. However, the price plays an important role for passengers when choosing an airline also when it is more environmentally responsible. 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

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 CO2 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 is about 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 price increases for environmental protection activities by airlines and whether airlines can even increase 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 question:

- 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?

THEORETICAL BACKGROUND

Industry measures for protecting the environment

In the past years airlines have improved the efficiency of their planes 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 CO2 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 planes by optimizing the fuel weight and reduce other things carried. From an economic perspective there are market based instruments (Mankiw& Taylor, 2006) such as the pigovian tax and emission trading scheme (ETS).

Furthermore there are voluntary climate care contributions or higher fares including climate care contributions. The latter are economic measures, which have an impact on airlines' costs. The question is whether a value for passengers can be created, so they are willing to pay more.

Customer attraction and brand image through corporate environmental responsibility (CER)

CER builds on the corporate identity (CI) of a company which is the companies 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 airlines' CER as attractive and it may influence their buying behavior. 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. 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). 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 given 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 travelers 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 behavior 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 behavior 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 behaviors such as recycling show greater consistency between attitudes and behavioral 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.

DATA COLLECTION, SAMPLE AND RESEARCH METHODOLOGY

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.

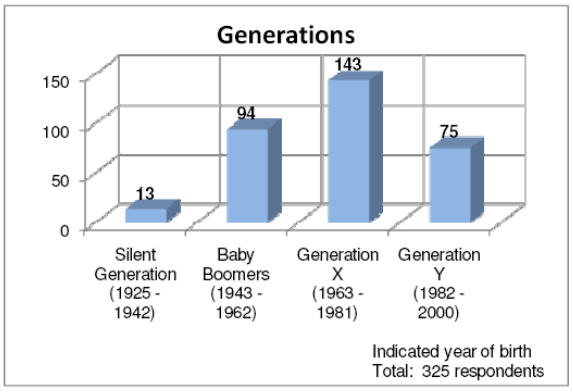
In a second step, the gained information was drawn in order to establish a questionnaire for airline passengers (appendix 2), thereby also approaching the problem from the consumer's perspective. The gained knowledge from the expert interviews and the literature was used to find evaluation factors to 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 analyzed in a first step by looking at Frequencies to provide an overview of the sample.

Figure 1: Demographic information

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



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 behavior 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 behavior shows that most passengers who took part in the survey fly more than once a year and more often for a 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 travelers is low could be the fact that many Business Class passengers stayed at the business lounge until boarding started, whereas the survey was conducted at the gate. 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 behavior” (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 behavior 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).

$$A_0 = \sum_{i=1}^{n} b_i e_i^{\,n}$$

A_0 = attitude towards a specific object
i = attribute
n = number of beliefs
b_i = belief i about this specific object $_0$
e_i = evaluation of attribute i
Source: Fishbein & Ajzen, 1975)

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.

ANALYSIS AND FINDINGS

To draw a picture of how attractive an environmentally responsible airline really is for potential customers four attributes were examined. These are: noise emission reduction, a modern fleet, the possibility to make a climate care contribution, and the airline’s effort to protect the environment. The passengers could weight their answer with ‘not at all’ or ‘very much’ on a scale from -3 to +3.

Table 2: Equations of attribute scores

Attributes of environmentally-aware airline	Belief about specific attribute		Evaluation of atrribute		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**

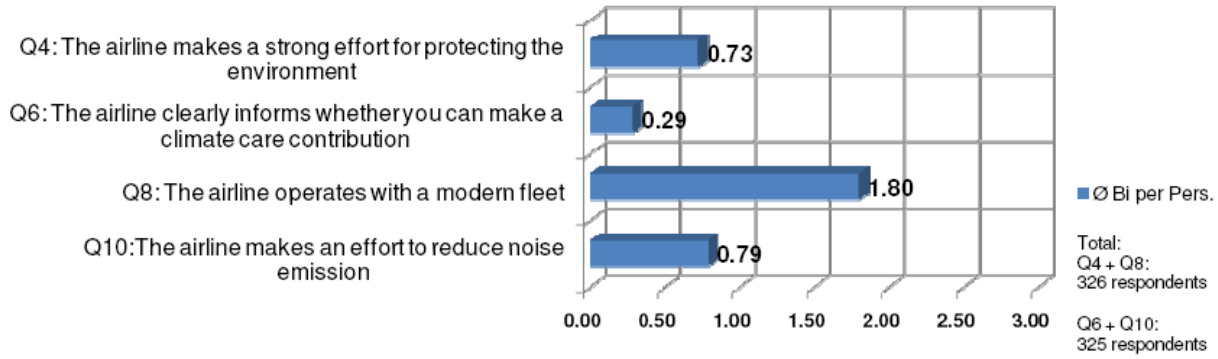
The beliefs about the four specific attributes (questions 4, 6, 8, 10 in the questionnaire in appendix 2) were determined by calculating the mean of them (=Ø Bi per Pers.). For the same attributes (questions 5, 7, 9, 11 in the questionnaire in appendix 2) it was determined whether they are appealing for passengers by calculating the mean (=Ø Ei per Pers.). The attitude score, determining the passengers' attitudes towards environmental management specifically, was then calculated by multiplying Bi with Ei. 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 (=Ø Bi per Pers.), the mean evaluation score (=Ø Ei per Pers.), and the mean attitude score (=Ø Bi x Ei 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.

Belief scores

The belief scores show whether passengers believe that SWISS makes an effort to protect the environment. As figure 2 illustrates that 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

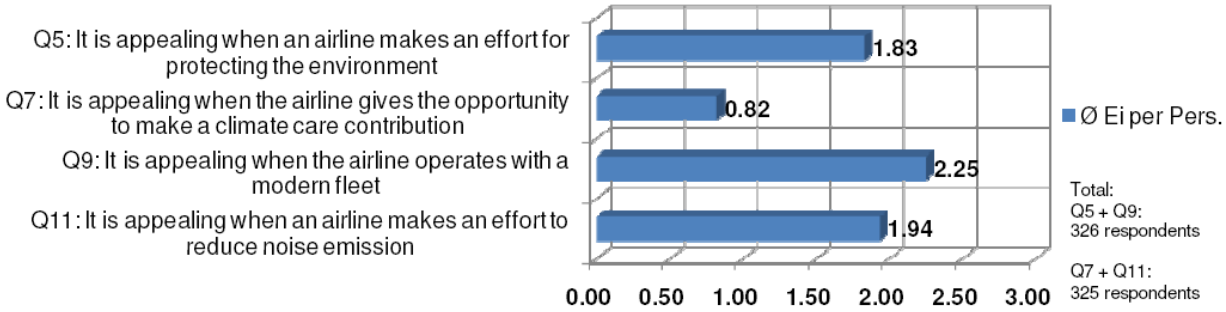


The most participants of the survey knew (and believed) that SWISS operates with a modern fleet. The mean of this attribute is, with 1.80 points, the highest of all four. As the standard deviation is 1.06 this result can be evaluated as overall positive, since the majority of all passengers answered 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.

Evaluation scores (appealing)

The evaluation whether attributes are appealing or not shows if specific environmental protection activities by SWISS appeal to its the passengers. Figure 3 illustrates that overall the measures of the airline is appealing to the respondents.

Figure 3: Evaluation of environmental measurements by SWISS passengers



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.

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.

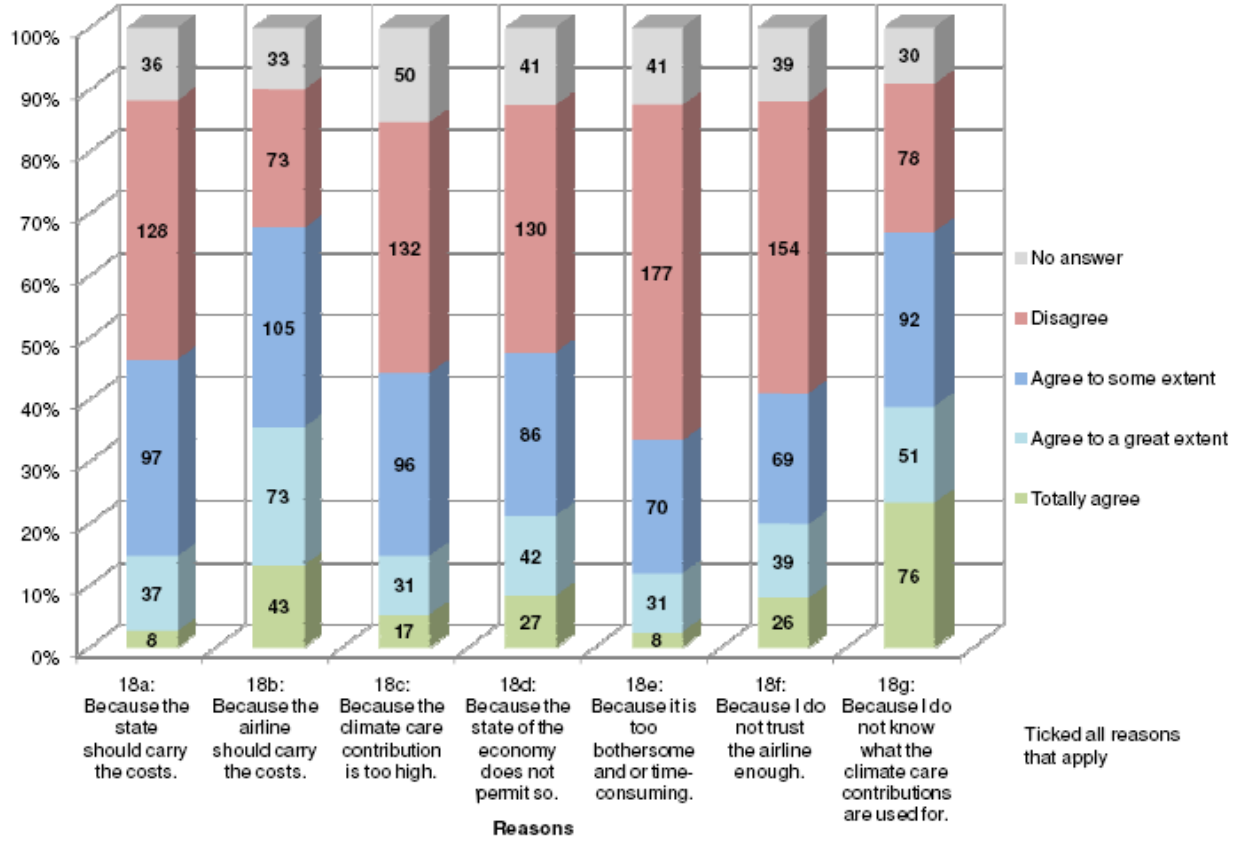
Thirdly, the efforts of an airline for protecting the environment received a mean score of 1.83 points. Even though this attribute has not achieved the highest mean value it is seen as appealing by a majority of the respondents. Of 325 passengers evaluating this attribute only 18 rated it with a negative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

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 CO2 emission 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 CO2 emissions are outsourcing their reputation. Or in other words, it is a burden of 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 analyzed in seven given reasons (figure 5), 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 CO2

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 CO2 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.

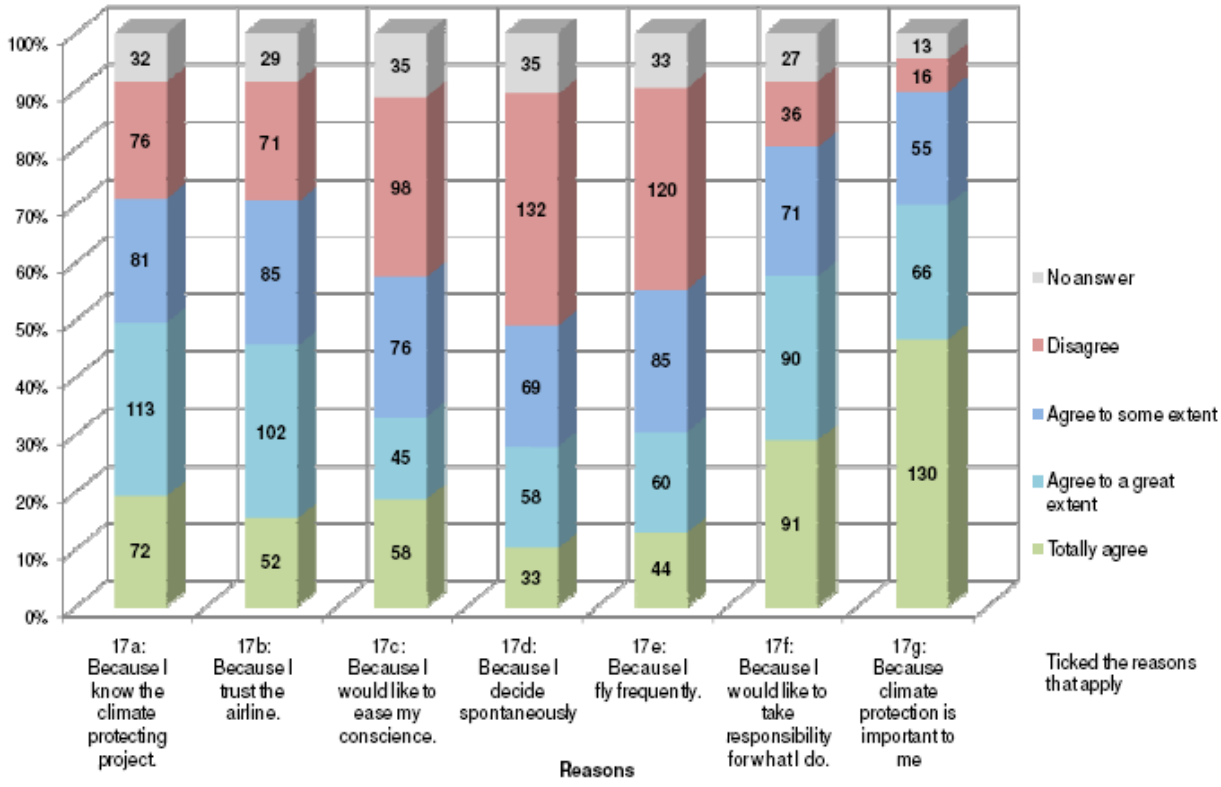
Figure 5: Reasons for not making a climate care contribution



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 6 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 CO2 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 CO2 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 6: Reasons for making a climate care contribution



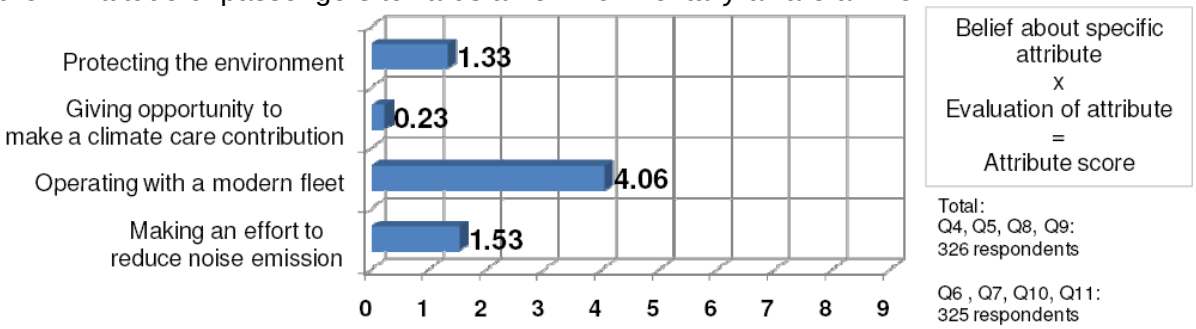
Although passengers do not take a proactive role in protecting the environment at present there is a genuine interest in the topic. Price and the lack of perceived credible information

seem to be the main issues for passengers not taking a more proactive role in protecting the environment.

Passengers Attitude towards environmental protection

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

Figure 4: Attitude of passengers towards an environmentally-aware airline



The attribute scores could range from -9 to +9. Yet as figure 4 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 favorably 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.

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 do 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. 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 behavior Ajzen and Fishbein (2005) established that general attitudes fail to determine a specific behavior. However, Wagner (2003) expects that "strong motivations regarding environmental issues can provoke issue specific, environmentally orientated behavior". 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.

CONCLUSION

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 behavior. 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 endeavors in leading the industry into 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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APPENDIX

1 Qualitative expert survey questions

1. With which five expressions would you describe your airline's brand?
2. How is the aspect of sustainability embedded in your airline's corporate strategy?
3. Which measurements for protecting the environment are the most visible for your potential passengers (e. g. environmental projects, sponsorship, awards)?
4. Which measurements for protecting the environment are, in your point of view, the most effective to enhance the brand value of your airline?
5. Are cut backs made in investments to protect the environment due to the current economic situation?
6. Have trends in corporate environmental management influenced your airline's competitiveness?
7. Why does your airline mainly take measurements to protect the environment: to attract more potential customers, to enhance your airline's brand identity or to safe costs?
8. Many of the major airlines have an environmental management system. Where would you see the significant differences between your airline and other major airlines?

2 Quantitative airline passenger survey

Dear Passenger,
Thank you for participating in this survey. There will be no advertising nor will anything be sold in this questionnaire. The data collected will be used purely for scientific purposes in the context of a Bachelor Thesis. The questionnaire is anonymous and all information will be treated as confidential. It will take at most 10 minutes to complete this questionnaire. Please answer all the questions.

The term "your airline" refers to the airline you are about to fly with.

Questions Concerning the Perception of an Airline in General

1. Which airline are you flying with today?

……

2. Which terms do you think of in connection with "your airline"?
(3 ticks at most possible)

❑ Authentic	❑ Friendly	❑ Sincere
❑ Clean	❑ Inexpensive	❑ Security
❑ Competent	❑ Integrity	❑ Service

❑ Efficient	❑ Punctual	❑ Team-orientated
❑ Environmentally-aware	❑ Quality	❑ Trustworthy

Questions Concerning the Measurements Taken by an Airline in General to Protect the Environment

3. Do you believe an airline which takes measurements to protect the environment will influence your consumer behavior in the future?

❑ Strongly agree ❑ Agree to a great extent ❑ Agree to some extent ❑ Disagree

❑ Do not know

			+3	+2	+1	0	-1	-2	-3	
4.	Do you believe that "your airline" makes a special effort to protect the environment?	Yes	❑	❑	❑	❑	❑	❑	❑	No
5.	How appealing is it to you when an airline makes an effort to protect the environment?	Very much	❑	❑	❑	❑	❑	❑	❑	Not at all
			+3	+2	+1	0	-1	-2	-3	
6.	Do you believe that "your airline" clearly informs whether you can make a climate care contribution?	Yes	❑	❑	❑	❑	❑	❑	❑	No
7.	How appealing is it to you when an airline gives you the opportunity to make a climate care contribution?	Very much	❑	❑	❑	❑	❑	❑	❑	Not at all
			+3	+2	+1	0	-1	-2	-3	
8.	Do you believe that "your airline" operates with a modern fleet?	Yes	❑	❑	❑	❑	❑	❑	❑	No
9.	How appealing is it to you when an airline operates with a modern fleet?	Very much	❑	❑	❑	❑	❑	❑	❑	Not at all
			+3	+2	+1	0	-1	-2	-3	

10. Do you believe that "your airline" makes a strong effort to reduce noise emission? Yes ❑ ❑ ❑ ❑ ❑ ❑ ❑ No

11. How appealing is it to you when an airline makes an effort to reduce noise emission? Very much ❑ ❑ ❑ ❑ ❑ ❑ ❑ Not at all

Questions Concerning the Climate Protection of an Airline

12. Which of the listed airlines, do you believe, gives its passengers the possibility to support a climate protecting project?

	Yes	No	Do not know
Air Berlin	❑	❑	❑
Air France / KLM	❑	❑	❑
British Airways	❑	❑	❑
Continental Air Lines	❑	❑	❑
Easy Jet	❑	❑	❑
Emirates	❑	❑	❑
Lufthansa	❑	❑	❑
Swiss	❑	❑	❑
Singapore Airlines	❑	❑	❑

13. Please indicate where you got to know of these climate protecting project(s).
(Tick all that apply, if no answer then continue with the next question)

❑ Airline Website ❑ News ❑ Radio
❑ Friends ❑ Online Travel Agency ❑ Travel Agency
❑ Magazine ❑ Newspaper ❑ TV
❑ Other:
……...

14. Did you make a climate care contribution for this flight?

❑ Yes ❑ No Continue with question 16 ❑ Do not know Continue with question 16

15. If yes, how did you find the price for the climate care contribution?

❑ Too high ❑ Too low ❑ Reasonable

16. What do you believe are climate care contributions used for?
(Tick all that apply, if no answer then continue with the next question)

- ❑ All or a part of the contributions will be invested in climate protecting projects.
- ❑ The airline uses the contributions for emission reduction measurements of their fleet.
- ❑ An environmental organisation invests the contributions according to how they see suitable.
- ❑ Other:

……..……

17. For which reasons would you make a climate care contribution?

	❑ Totally agree	❑ Agree to a great extent	❑ Agree to some extent	❑ Disagree
Because I know the climate protecting project.	❑	❑	❑	❑
Because I trust the airline.	❑	❑	❑	❑
Because I would like to ease my conscience.	❑	❑	❑	❑
Because I decide spontaneously.	❑	❑	❑	❑
Because I fly frequently.	❑	❑	❑	❑
Because I would like to take responsibility for what I do.	❑	❑	❑	❑
Because climate protection is important to me.	❑	❑	❑	❑
Other:……..……...	❑	❑	❑	❑

18. For which reasons would you <u>NOT</u> make a climate care contribution?

	❑ Totally agree	❑ Agree to a great extent	❑ Agree to some extent	❑ Disagree
Because the state should carry the costs.	❑	❑	❑	❑
Because the airline should carry the costs.	❑	❑	❑	❑
Because the climate care contribution is too high.	❑	❑	❑	❑
Because the state of the economy does not permit so.	❑	❑	❑	❑
Because it is too bothersome and / or time-consuming.	❑	❑	❑	❑
Because I do not trust the airline enough.	❑	❑	❑	❑
Because I do not know what the climate care contributions are used for.	❑	❑	❑	❑

Other:……..……...

Demographic Questions

19. How often do you fly on average per year? A return flight counts as one flight.

- ❑ Min. once per week
- ❑ Min. once per month
- ❑ Min. once every half year
- ❑ Min. once per year
- ❑ Less than once per year

20. Do you often (= ca. ¾ of all flights) fly with the same airline?

- ❑ Yes
- ❑ No

21. Please specify the flight distance of your flight today.

- ❑ Short-haul flight (Within Europe)
- ❑ Long-haul flight (Intercontinental)

22. Is your flight a transfer flight?

- ❑ Yes
- ❑ No

23. What is the reason for your air travel?

- ❑ Business
- ❑ Personal

24. Which class will you be flying today?

- ❑ Economy
- ❑ Business
- ❑ First Class

25. In which country and in which town / village is your current place of residence?

Country:..……...
Town / Village:…..……...……...

26. Please indicate your gender by ticking the correct box.

- ❑ Male
- ❑ Female

27. Please write down your year of birth.
……

Thank you for taking time to answer this questionnaire. Have a safe flight!

3 Correlations

Correlations

		Q3	Q17a	Q17b	Q17c	Q17d	Q17e	Q17f	Q17g	Q18a	Q18b	Q18c	Q18d	Q18e	Q18f	Q18g	Q5
Q3	Pearson Correlation	1	-.005	.103	.158**	-.042	.127*	.283**	.255**	-.050	-.035	-.178**	-.058	-.150**	-.059	-.124*	.387**
	Sig. (2-tailed)		.926	.064	.004	.448	.022	.000	.000	.364	.523	.001	.293	.007	.289	.026	.000
	N	327	327	327	327	327	327	327	327	327	327	327	327	327	327	327	325
Q17a	Pearson Correlation	-.005	1	.307**	.215**	.208**	.088	.215**	.212**	-.025	.093	.182**	.079	.109*	.143**	.112*	.085
	Sig. (2-tailed)	.926		.000	.000	.000	.114	.000	.000	.651	.095	.001	.153	.049	.010	.042	.125
	N	327	327	327	327	327	327	327	327	327	327	327	327	327	327	327	325
Q17b	Pearson Correlation	.103	.307**	1	.257**	.240**	.185**	.262**	.259**	.043	.023	.135*	.066	.126*	-.053	-.133*	.210**
	Sig. (2-tailed)	.064	.000		.000	.000	.001	.000	.000	.434	.682	.014	.235	.022	.339	.016	.000
	N	327	327	327	327	327	327	327	327	327	327	327	327	327	327	327	325
Q17c	Pearson Correlation	.158**	.215**	.257**	1	.238**	.190**	.394**	.270**	.087	.128*	.094	.141*	.135*	.166**	.047	.245**
	Sig. (2-tailed)	.004	.000	.000		.000	.001	.000	.000	.117	.020	.090	.011	.015	.003	.393	.000
	N	327	327	327	327	327	327	327	327	327	327	327	327	327	327	327	325
Q17d	Pearson Correlation	-.042	.208**	.240**	.238**	1	.183**	.121*	.115*	.123*	.092	.110*	.068	.209**	.106	.107	.043
	Sig. (2-tailed)	.448	.000	.000	.000		.001	.028	.037	.026	.096	.047	.219	.000	.056	.053	.436
	N	327	327	327	327	327	327	327	327	327	327	327	327	327	327	327	325
Q17e	Pearson Correlation	.127*	.088	.185**	.190**	.183**	1	.219**	.021	.060	.035	.134*	.119*	.123*	.103	-.080	.119*
	Sig. (2-tailed)	.022	.114	.001	.001	.001		.000	.711	.278	.533	.016	.032	.026	.063	.147	.032
	N	327	327	327	327	327	327	327	327	327	327	327	327	327	327	327	325
Q17f	Pearson Correlation	.283**	.215**	.262**	.394**	.121*	.219**	1	.467**	.055	.073	.065	.112*	.018	.058	-.054	.243**
	Sig. (2-tailed)	.000	.000	.000	.000	.028	.000		.000	.324	.186	.244	.043	.741	.294	.331	.000
	N	327	327	327	327	327	327	327	327	327	327	327	327	327	327	327	325
Q17g	Pearson Correlation	.255**	.212**	.259**	.270**	.115*	.021	.467**	1	.012	-.036	-.063	.025	-.041	.060	-.064	.343**
	Sig. (2-tailed)	.000	.000	.000	.000	.037	.711	.000		.830	.512	.253	.657	.457	.277	.246	.000
	N	327	327	327	327	327	327	327	327	327	327	327	327	327	327	327	325

Q18a	Pearson Correlation	-.050	-.025	.043	.087	.123*	.060	.055	.012	1	.380**	.256**	.209**	.176**	.010	.007	.074
	Sig. (2-tailed)	.364	.651	.434	.117	.026	.278	.324	.830		.000	.000	.000	.001	.860	.900	.182
	N	327	327	327	327	327	327	327	327	327	327	327	327	327	327	327	325
Q18b	Pearson Correlation	-.035	.093	.023	.128*	.092	.035	.073	-.036	.380**	1	.276**	.176**	.191**	.170**	.131*	-.034
	Sig. (2-tailed)	.523	.095	.682	.020	.096	.533	.186	.512	.000		.000	.001	.001	.002	.018	.541
	N	327	327	327	327	327	327	327	327	327	327	327	327	327	327	327	325
Q18c	Pearson Correlation	-.178**	.182**	.135*	.094	.110*	.134*	.065	-.063	.256**	.276**	1	.440**	.456**	.171**	.191**	-.068
	Sig. (2-tailed)	.001	.001	.014	.090	.047	.016	.244	.253	.000	.000		.000	.000	.002	.001	.221
	N	327	327	327	327	327	327	327	327	327	327	327	327	327	327	327	325
Q18d	Pearson Correlation	-.058	.079	.066	.141*	.068	.119*	.112*	.025	.209**	.176**	.440**	1	.321**	.176**	.124*	.080
	Sig. (2-tailed)	.293	.153	.235	.011	.219	.032	.043	.657	.000	.001	.000		.000	.001	.025	.152
	N	327	327	327	327	327	327	327	327	327	327	327	327	327	327	327	325
Q18e	Pearson Correlation	-.150**	.109*	.126*	.135*	.209**	.123*	.018	-.041	.176**	.191**	.456**	.321**	1	.316**	.165**	-.089
	Sig. (2-tailed)	.007	.049	.022	.015	.000	.026	.741	.457	.001	.001	.000	.000		.000	.003	.111
	N	327	327	327	327	327	327	327	327	327	327	327	327	327	327	327	325
Q18f	Pearson Correlation	-.059	.143**	-.053	.166**	.106	.103	.058	.060	.010	.170**	.171**	.176**	.316**	1	.385**	-.036
	Sig. (2-tailed)	.289	.010	.339	.003	.056	.063	.294	.277	.860	.002	.002	.001	.000		.000	.521
	N	327	327	327	327	327	327	327	327	327	327	327	327	327	327	327	325
Q18g	Pearson Correlation	-.124*	.112*	-.133*	.047	.107	-.080	-.054	-.064	.007	.131*	.191**	.124*	.165**	.385**	1	-.217**
	Sig. (2-tailed)	.026	.042	.016	.393	.053	.147	.331	.246	.900	.018	.001	.025	.003	.000		.000
	N	327	327	327	327	327	327	327	327	327	327	327	327	327	327	327	325
Q5	Pearson Correlation	.387**	.085	.210**	.245**	.043	.119*	.243**	.343**	.074	-.034	-.068	.080	-.089	-.036	-.217**	1
	Sig. (2-tailed)	.000	.125	.000	.000	.436	.032	.000	.000	.182	.541	.221	.152	.111	.521	.000	
	N	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325
**. Correlation is significant at the 0.01 level (2-tailed).																	
*. Correlation is significant at the 0.05 level (2-tailed).																	

Correlations

		Q3	Q5	Q7	Q9	Q11
Q3	Pearson Correlation	1	.387**	.352**	.044	.252**
	Sig. (2-tailed)		.000	.000	.430	.000
	N	327	325	326	325	326
Q5	Pearson Correlation	.387**	1	.362**	.097	.360**
	Sig. (2-tailed)	.000		.000	.081	.000
	N	325	325	325	324	325
Q7	Pearson Correlation	.352**	.362**	1	.173**	.300**
	Sig. (2-tailed)	.000	.000		.002	.000
	N	326	325	326	325	326
Q9	Pearson Correlation	.044	.097	.173**	1	.255**
	Sig. (2-tailed)	.430	.081	.002		.000
	N	325	324	325	325	325
Q11	Pearson Correlation	.252**	.360**	.300**	.255**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	326	325	326	325	326

Correlations

		Q4	Q6	Q8	Q10	Q3
Q4	Pearson Correlation	1	.425**	.332**	.457**	.134*
	Sig. (2-tailed)		.000	.000	.000	.016
	N	324	324	323	324	324
Q6	Pearson Correlation	.425**	1	.234**	.323**	.233**
	Sig. (2-tailed)	.000		.000	.000	.000
	N	324	326	325	326	326
Q8	Pearson Correlation	.332**	.234**	1	.307**	.060
	Sig. (2-tailed)	.000	.000		.000	.285
	N	323	325	325	325	325
Q10	Pearson Correlation	.457**	.323**	.307**	1	.138*
	Sig. (2-tailed)	.000	.000	.000		.013
	N	324	326	325	326	326
Q3	Pearson Correlation	.134*	.233**	.060	.138*	1
	Sig. (2-tailed)	.016	.000	.285	.013	
	N	324	326	325	326	327

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

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