Tourists' attitudes toward Eco- friendly flights
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Abstract

Air travel is an invaluable global asset which provides a worldwide transportation network. Safeguarding aviation's economic, societal and environmental benefits is crucial. By 2050 the Air Transport industry is expected to handle 16 billion passengers annually. In the meantime, passengers have become increasingly mindful of the ecological impact of their travel choices. This study seeks to explore levels of awareness among the tourists and their impacts on airline industry, causes environmental change. To determine whether or not passengers are fully aware of the efforts undertaken by airline companies to reduce their harmful environmental impacts. Additionally, this study will detect whether or not this knowledge has a positive influence on the customer's choice to travel with a specific airline. Data were collected through a questionnaire distributed randomly among 300 tourist at Cairo International Airport. The results shows low awareness among consumers with regard to the environmental actions of airlines. Implications and recommendations for further research are also offered in this study.

Introduction

In the past three decades, environmental sustainability has raised a lot of attention for both the business world as well as the consumers. Airline companies have faced much criticism for their negative impacts on the environment that appear in the form of noise pollution, congestion, CO2 emissions resulting greenhouse gas and waste production (Gössling, 2002). The ongoing growth together with forecasted grows, in air travel is a major concern. The global growth rates of air travel has been increased by 5–6% per year during the years of 1970–2000 and are predicted to continue growing at annual rates of 5% until 2020 (Gössling and Peeters, 2007). Estimates suggest that carbon dioxide emissions from air travel could rise to more than 15% of total carbon dioxide emissions from all sources by 2050 (Dubois and Ceron, 2006). Thus, the aim of the aviation industry is to decrease the greenhouse gas (GHG) emissions that have a negative impact on the environment and contribute to climate change (Gössling, 2009).

If the industry continues to grow on equal emission path, they have to implement some techniques to eliminate the causes. These actions are adopted to reduce their negative impact. These include Technological changes; Market-based changes; and Behavioural changes. Emissions reduction from technological changes to aircraft engine design could be in the order of 20% by 2050 (Penner et al., 1999), with further potential reductions coming from improvements in air traffic management and operational efficiency. Virgin, the American airline, as one among many airlines, is actively developing biofuel technologies in an attempt to reduce their reliance on carbon-emitting fossil fuels (Airport Cooperative Research Program, 2011).

However, even if these emission reductions are achieved the impacts will not be that significant, as the forecasted growth in the air travel demand will far outpace the predicted technological efficiencies. The industry will still be facing other effects resulting from market-based changes, such as taxes on jet fuel or air craft emissions causing serious impact on the demand for air travel (Tol, 2007). Scheelhaase and Grimme (2007) argued

that the introduction of emissions trading will have favorable environmental impacts as it works on the basis of added cost to the already existent airline costs. This could automatically create a setback on demand due to the recent global economic crisis which obviously will lead to a significant decrease.

The third option is the behavioral change which is considered to have the most important role in leading to reductions in GHG emissions from air travel associated with tourism (Gössling et al., 2007). Anable et al. (2006: 64) stated that there is no ''grand unified theory'' that provides a definitive explanation of behavioral change; hence the purpose of the present study is not to highlight any particular behavior theories. Instead, it is seeking to explore the extent of environmental awareness among consumers, and analyze how far the environmental responsibility within the airline industry is being implemented. Consequently, the factors that influence the consumer decision making process will then be assessed.

Literature Review

Airline environmental sustainability and Eco-friendly flights

There is a broad consensus that the airline industry is one of the most important contributors to climate change, which has led airline companies to minimize their environmental impacts associated with their operations and continuously reduce their footprint in air. As well as on the ground and in all their facilities offered (Gössling et al., 2007). With this rapid growth of air travel worldwide, the issue of environmental responsibility become one of the main topics to be discussed. Airline companies are now facing with increased responsibility, tightened regulations and heightened expectations. So, taking actions today will shape an environmentally sustainable future.

Airline companies' commitment to the environment rests on four pillars: First, depending on Fuel efficiency and carbon management by reducing fuel through improving the fuel efficiency of the aircraft and vehicles by technology and process innovation; Second, creating sustainable travel products and services by continually working to improve the sustainability

of the products and the facilities used, as well as reducing and responsibly managing waste generated ; third is by using alternative fuels through advancing and investing in environmentally responsible and cost-efficient alternative fuels; the fourth point can be achieved with partners in sustainability by continually partnering with external stakeholders, customers, airport employees, business partners, suppliers, governments and non-governmental organizations, to promote accountability and protect the environment as part of their way of doing business(Eco-skies,2017).

So Eco-friendly airlines are carriers that can reduce fuel usage leading less impact on the environment overall. The top eco-friendly airlines make use of green designs, employ waste-reduction programs, offer healthy food products serviced on recycled materials, provide carbon offset options that air travelers can adopt to lower their footprint. And also encourage the traveler to calculate through the implemented new carbon dioxide application on the mobile their footprint in the sky and its effect on the environment.

Consumers' behavior

Flying is not the most eco-friendly way to get from one place to another, but it's sometimes necessary. As much as people want to green their life style-which means making daily choices that are easy on the planet-air travel is sometimes needed to connect the world and make it a better place. Recent research suggested that tourists have little specific knowledge about how air travel affects the environment (Becken, 2007; Shaw and Thomas, 2006). In a UK study, public attitudes towards air travel have been examined, 55% of the total respondents stated that they believed that air travel harms the environment, with 44% of the respondents specifically mentioning climate change (Department of Transport, 2008). In Light of this, many travelers have called for greater transparency throughout the industry as well as increased availability of information on aviation's contributions to climate change (Hares, et al., 2010). It has been suggested that increased awareness of environmental impacts could lead to more responsible decision making on both the

industry and the personal level. Also, it can further more affect the choice of the airline used.

Moutinho's decision-making model stated that travel decisions are affected by a combination of attitude sets and social influences such as culture, reference groups and familial influences (Sirakaya and Woodside, 2005). Hence, Moutincho's decision making model recognized traveler behavior as necessarily being dependent on their attitude effected by repetitions of airline. Therefore, Airline companies are in a position to maintain, change or create consumer attitudes through a variety of methods. This can be achieved through modifying characteristics of the service, altering beliefs about the company, and the competitors, or inducing attention to certain attributes, such as an airline's environmental record (Moutinho, 1993). Furthermore, Travel preferences and attitudes are developed through the perception of benefits; thus, when choosing an airline, a traveler will assess the level of benefits offered by each alternative (Moutinho, 1993). Hence, consumer attitudes, interests and viewpoints are directly related to attitudes towards different kinds of holiday experiences and modes of travel.

On the other hand, Ajzen and Fishbein (1980) have developed a model that can forecast consumers' behavior by looking at their intentions and factors that are behind their choice (Sheppard et al., 1988). The main concept of the model is that a person's behavior is a result of both his attitude and subjective norms of engaging in that specific behavior. So the traveler will take into consideration whether the airline is environmentally sustainable if his friends or family regard this as an important issue or it is engraved in his knowledge or believes. Therefore the social pressure and what other people will say or think will impact the manner in which an intention will be formed. Behavioral beliefs are constructed on the account of environmental influences leading the consumer to exhibit a particular attitude towards a certain behavior.

The analysis of consumer behavior requires a consideration of various factors both internal and external to the individual (Moutinho, 1993). In order to fully comprehend the purchasing behavior of travelers, it is

necessary to examine the interaction of these factors at all stages of the purchasing process, from pre-decision as mentioned above to post purchase. Within the stage of pre-decision, a tourist will develop preferences for a particular product based on a set of factors, including cultural values, reference groups, personality, lifestyle, motives and attitude to obtain and digest information on available products and services. The various attributes of these products are important to the traveler and will be used when evaluating the alternatives that are available. This process will eventually enable the tourist making a decision over the final purchase (Budianschi et al., 2012).

A consumer's evaluative feedback has a significant impact upon the decision maker's attitude set and/or subsequent behavior; thus, if a customer has a positive experience flying with an airline, it is likely that they will purchase from the same airline in the future also if its reputation is serving the community or global intension they are likely to follow. Post-purchase evaluation is important to the consumer as it contributes to the traveler's experiences and broadens personal needs, ambitions, perceptions and understanding (Moutinho, 1993).

Environmental Responsibility

Kaiser et al. (1999) acknowledged that the moral dimension is mainly responsible for an individual's ecological behavior. Based on thier model, feelings of responsibility, environmental knowledge and environmental values, form one's intention to act environmentally sustainable which leads to ecological behavior. Environmental responsibility can be inhibited by other types of responsibilities connected to work and other du-ties that one must fulfill. When faced with social norms it is rather common for consumers to create a situation of denial, negating any kind of feelings that link them to environmental degradation (Cohen et al., 2011). This lack of environmental responsibility does not affect only the business travelers but also the individuals who have leisure-related destinations. Also, focusing on ethnic segmentation, it is widely embedded in their thoughts, believes and actions.

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As established along with their knowledge of the importance of the environment. As well as the means to protect and eliminate negative impacts. The environmentally conscious travelers strongly would choose the means of transportation and specially traveling by air, eliminating negative effects and preserving global environment. Therefore, there are ways that these travelers demand reduction of emissions before using, during, and after the flight or in other words how the traveler can behave eco-friendly (Benny, 2016), these ways are:

(1) Taking a nonstop flight this means less fuel and thus there are fewer carbon offsets, and to fly on a newer plane it will be more fuel efficient,

(2) Towering the window shades and open the vents when it is warm outside as it helps to keep the aircraft cool to reduce the cooling load saves energy and reduces greenhouse gas emissions. (3) Packing lighter to cut fuel consumption and lessen environmental and using recycled materials.

(4) Using a completely electronic tickets on smart phone this will get rid of all paper waste and comparing the emissions output by different airlines for a similar flight is a quick and efficient way to lighten the carbon footprint.

(5) Using "met and greet car parking" which allows the passenger to be able to park right at the entrance of the terminal then the vehicle would be taken to a secure location for the duration of the trip, this will minimize the passengers carbon footprint and save time as well.

(6) Choosing the airline which has an effective carbon neutral programme, and to try to book a flight that the majority of its seats are filled, (picking up the right flight).

(7) Tracking down the eco airports before booking the trip, these are airports using solar panels, energy saving measures and other progressive tricks to offset pollution (Matison, 2016).

Summering up, the term eco-friendly flights means a flight that achieves all the above environmental friendly aspects which eventually determines

how sustainable an airline company is and how passengers can minimize their negative impact on environment.

Research Design and Methodology

The Research Method

The collection of data depends on two methods which are quantitative and qualitative. Using the quantitative method, a survey was conducted and analyzed. This survey has been carried out at Cairo International Airport in Egypt targeting both, leisure and business travelers. The qualitative method is based on various articles, interviews and journals connected to consumer behavior and their attitudes towards eco-friendly flights. Multiple methods are helpful because they provide a better evaluation of the extent to which the research findings can be trusted (Bryman, 2006; Tashakkori and Teddlie, 2010).

Procedures and Measurements

The survey used in this study was adapted from the work of Budianschi et al., (2012). This is because they followed a rigorous methodology for developing and validating the original research instrument. The design of questions included category questions and rating questions. The category questions are useful to "collect data about behavior" (Saunders et al., 2007:370); which include gender, age groups, factors beyond the respondent's decision when choosing an airline, awareness of how sustainable their airline company is. Rating questions are very useful in collecting opinion data. The Likert-style rating scale is the most frequent method in rating questions (Malhotra and Saunders, 2010).

The survey was accumulated on tourists from different nationalities at Cairo International Airport from March to December 2014. A total of 300 questionnaires were distributed and 270 were collected. Only 240 questionnaires were valid for analysis after the elimination of the incompletes ones representing 80% of the total.

Statistical analysis

The Statistical Package for Social Sciences (SPSS) was used to analyze the results by calculating the frequency, mean, and standard deviation .The reliability of the questionnaire was conducted using Cronbach's Alpha statistical data procedures. The Cronbach's alpha values ranged from 0.73 to 0.76, which demonstrate that the scale of the questionnaire have considerable reliability.

Results

The demographics of respondents

The demographic characteristics of respondents were assessed in terms of gender and age group. It is apparent from Table 1 that the number of male who took the survey exceeds the number of female, where female were 41.7% and males were 58.3%. The individuals were divided into three age groups, the group with the most frequent answers were individuals aged from 20 to 35 years old. The age group 36 to 50, had the second highest number of respondents. While the lowest number of respondents were from the third age group.

Table 1. The demographic characteristics of respondents

Characteristics	Frequency	Percentage
Gender		
Male	140	58.3
Female	100	41.7
Age		
20-35	110	45.9
36-50	80	33.3
50+	50	20.8

Table 2 indicates that the most important factors affecting their choice of an airline were the prices and desired routes. The respondents also were concerned with the services provided and overall quality. Only a few number of travelers choose a sustainable eco-friendly airline. Other attributes such as brand image, security are of little importance in the decision making process. Therefore, still awareness about eco-friendly flights is insufficient.

Table 2 Factors influencing consumer decision making process

Factors	Frequency	percent
Prices	64	26.7
Overall quality	38	15.8
Sustainable	26	10.8
Desired routes	58	24,2
Security	18	7.5
Service Provided	36	15.0
Total	240	100

Table 3 illustrates the percentage of individuals who are aware and who are not aware of how eco-friendly their airline company is. The results show that 70 % of the respondents were not aware. Which means that airlines itself needs to expand information about the process adapted for being eco-friendly. Moreover, many of the respondents before answering this question, asked to explain for them the concept of eco-friendly flights.

Table 3 Awareness of how eco-friendly the airline company is

	Frequency	percent
Yes	72	30
No	168	70
Total	240	100

Table 4 Acknowledgment of the impact of airlines have on climate change

	Frequency	percent
Yes	178	74.2
No	62	25.8
Total	240	100

The results in table 4 shows that (74.2%) of the respondents acknowledge that the airlines have impact on climate change and on the levels of greenhouse gases released in the atmosphere but they did not have a strong understanding of either the causes of climate change or the role that humans, including themselves, are having on the levels of GHGs being released into the atmosphere. This question was stated as the previous as to be sure of the answer and how travelers know and understand the role of eco-friendly flights. As well as those airlines when needs more information to be known through the media. The media can be used as to inform travelers of their efforts towards the environment and

how they serve humanity, to be considered a positive value added to the airline.

Table 5 Awareness of the efforts undertaken by airlines companies to reduce their harmful environmental impacts

	Frequency	percent
Yes	90	37.5
No	150	62.5
Total	240	100

The results in table 5 demonstrates that (37.5%) of the respondents acknowledge that there are efforts undertaken by airline companies to reduce their harmful environmental impact while (62.5%) of the respondents are not aware of those efforts. This means that airlines must also act as a source of information as they presently fail to inform enough consumers about their environmental performance. The problem that arises is that tourists are often hesitant to trust the airline industry, as one of their main objectives is to make profit. Thus, even with a strong environmental record, an airline may be unable to persuade customers to travel with them, as consumers do not place a lot of trust in the industry.

Table 6 Descriptive Statistics for the population for the following statements

	The statements	mean	Std. Deviation
1	It is important to me that the airline is environmentally friendly	4.24	1.54
2	I will not choose to fly with an airline which is not environmentally sustainable	3.01	1.51
3	I am aware that the airline industry has a negative impact on the environment	5.11	1.70
4	I try to fly as seldom as possible or to use other modes of transport because of the airline industry's negative impact on the environment	3.11	1.44
5	When other people around me help the environment I feel I should do.	4.50	1.59
6	I am loyal to my airline because of its environmental record	2.13	1.25
7	When purchasing a plane ticket I am influenced by my friends' choice of airline.	2.75	1.52
8	When choosing an airline, the price is more important to me, than flying eco-friendly.	5.01	1.65
9	I am willing to pay to offset the carbon emissions from my flights	2.85	1.35

Question 6 was designed of nine statements concerning environmental values, responsibilities, knowledge and intentions. These were presented in Table 6 .The respondents were asked to rank their answers on a scale from one to five. According to table 6 the results indicated that the highest mean is statement number three regarding the negative impact that the airline industry has on the environment. A (mean of 5.11) shows that the majority of people acknowledged the existence of a negative impact on the environment. However the standard of deviation was (1.7) which indicates that the responses ranged from a value of 3 to 5.On the other hand ,the lowest mean of all the statement presented in the table was statement six "I am loyal to my airline because of its environmental record" (mean =2.13). Individuals strongly disagreed, ranking statement number six with a value of two. The standard deviation was (1.25) which indicates that none of the individuals agreed with the statement. This indicates also that the respondents will not be devoted to an airline solely because of its environmental record. Consumers will fly with an eco- friendly airline only if they do not have to forfeit any of their main values in favor of sustainability. Therefore, sustainable airlines have to be able to maintain the same level of prices as before going eco-friendly.

Statement one "It is important to me that the airline is environmentally friendly" (mean= 4.24) shows that the majority of the tourists attached a very high importance and value that the airline is environmentally friendly. Statement two "I will not choose to fly with an airline which is not environmentally sustainable" (mean=3.01) and the standard deviation was (1.51) which indicates that the respondents can fly with an airline which is not environmentally sustainable .Despite their awareness of the negative impact of the airline industry, they did not care whether their airline is environmentally friendly or not.

Statement four "I try to fly as seldom as possible or to use other modes of transport because of the airline industry's negative impact on the environment" has a low mean as they disagreed to fly less or to use other alternatives modes of transport. Flying was considered the only viable option for most holiday destinations and illustrates the extent to which participants were 'locked-in' to flying ((Randles and Mander, 2009).

Confirming a view that trains cannot compete with planes in terms of price or travel time as well as other alternatives modes of transport.

Statement five "When other people around me help the environment I feel I should do". (Mean=4.50) and the standard deviation was (1.59).This implies that the respondent are willing to help the environment if other people around them do. This was related to the belief among participants that responsibility for the environment lies with others, and was consistent with the findings of Stoll-Kleemann et al. (2001) and Lorenzoni et al. (2007).

Statement eight "When choosing an airline, the price is more important to me, than flying eco-friendly" has a similar highest mean as statement number three (mean=5.01) where the respondents agreed that price consideration were important to them than flying sustainability. This means that although people are aware of the negative impact that the airline industry has, they will not take this into consideration when purchasing a plane ticket This was not surprising as past research argued that price sensitivity is a strong determinant of the decision making process (VanRajj, 1986). Price considerations were taken into account at both the pre-decision phase and post purchase stage when searching about the best prices and offers to choose to travel with or after purchasing as the traveler will evaluate and perform a mental cost benefit analysis which results in a balance level of the prices paid for airline ticket.

Statement nine "I am willing to pay to offset the carbon emissions from my flights" (mean= 2.85) which is very low as they disagreed strongly with it. This means that the participants saw that responsibility for the negative impact on environment lies with others as mentioned above. As the major contributors to this negative impact on environment were considered to be governments, businesses and other countries. Very little responsibility was seen to lie with individuals in terms of personal contributions to this negative impact. The lack of personal responsibility displayed by the participants is clearly a barrier to adjusting their travel behaviour in favour of lower carbon options.

Conclusions and Recommendations

After evaluating the results of the research, it can be concluded that the majority of the respondents have shown that they had knowledge about the environmental issues and realized that the airline industry is harmful for the environment, however were not ready to travel less. This means that the current society has not yet developed feelings of responsibility when it comes to flying which implies that whenever flying, a person will not be immediately held responsible for damaging the environment and for not acting environmentally sustainable. Moreover, travelers were not familiar with neither the concept of eco-friendly flights nor how eco-friendly the airline company is. The introduction of the eco-friendly flights would still remain unknown area for the consumers as they did not know what this requires. Therefore, the ecological behavior within the airline industry is still at its early stages.

The findings also stated that when individuals were purchasing a plane ticket, they were not aware of their airline's environmental record. As such, it can be concluded that consumers did not have a value system that prompts them to consider sustainable flights as a traveling option. This attitude was due to the fact that consumers were not well informed by their airlines about the possibilities of flying eco-friendly. Factual environmental knowledge should be supported by knowledge on how to behave eco-friendly. This can be achieved through the ability of airline companies themselves to inform the traveler which airline tickets are environmentally sustainable in order to increase the awareness, and thus encourage pro-environmental behavior since very few of them inform the travelers about their environmental performance.

 As knowledge is one of the most important factors for action, O'Connor et al. (1999) suggested that providing more information about the environmental impacts the airline industry had, would lead to pro-environmental decision making, As such, individuals who are highly educated about the negative impact of the airline industry on the environment are more likely to pay an extra price, and therefore be considered as green consumers. Another way of increasing the consumer

awareness and consciousness, is by imposing environmental taxes for international flights. However, an increase in taxes affects the consumers in a negative way, since the air travel will be more expensive.

Additionally, there are other considerations that consumers draw upon when purchasing flights from an airline company. These included prices, availability of routes, overall quality and services provided. As is evident by the general lack of awareness surrounding airlines and their sustainability initiatives, this was not a factor that has a significant impact on the purchase intentions of air travelers. This illustrated an absence of loyalty to any specific airline and a desire to act independently when making travel decisions.

The research identified two major barriers to behavioural change when it comes to taking holidays, which present significant obstacles in terms of reducing the negative impact of international travel on environment. The first barrier was the dismissal of alternative transport modes to air travel as travelers considered that they have no choice but to continue flying when they go on holiday and that the other modes of transport cannot compete with planes. However, the second barrier was that tourists were not prepared to accept personal responsibility of the negative impact of their holiday on environment instead they considered that responsibility lies on the government, business and other countries rather than individuals.

Finally, the process through which a traveler selects an airline company to travel with is a complex one which involves a variety of factors. Among these are one's environmental values, knowledge and feelings of personal responsibility. Consumers are not ready to purchase environmentally-friendly flights as they lack knowledge about what these services entail. As suggested above, the airline companies should promote environmental awareness as well as should provide easy access to information regarding eco-friendly flights. Although the airline industry accounts for only a small proportion of the global emissions of CO2, it is a fast growing industry that endangers the environment. Therefore more attention should be given to the topic of eco-friendly flights and the possibility of imposing an environmental tax for the international flights should be revised.

Limitations and Further Research

The current investigation was limited to only business and leisure tourists in one country. The generalization of the results to other categories of tourists in other countries in Egypt is, therefore, illogic. Thus, it is suggested to broaden the survey with other countries in Egypt. Further research could consist of surveys carried out on bigger samples which would be more representative of the entire population. Additional questions and statements regarding feelings of guilt, responsibility as well as income and occupation can also be included in the questionnaire. Another approach would be to obtain the industry's perspective on the topic by interviewing experts working within the airline industry.

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قياس اتجاهات المستهلكين تجاه رحلات الطيران الصديقه للبيئه

ملخص البحث

تنبع أهميه النقل الجوى الدولى من الدور الرئيسى الذى يقوم به فى تحقيق التواصل الاقتصادي ، الاجتماعي والثقافي بين دول ومناطق العالم المختلفة وشعوبها. فهو بمثابه أحد الأصول العالميه التى لا تقدر بثمن. وبالتالى ،يمثل معدل النمو المتسارع لرحلات الطيران تهديدا للبيئه فمن المتوقع أن يصل عدد المسافرين سنويا الى سته عشر مليار بحلول عام ٢٠٥٠. وفى هذا السياق ،فإن هذه الدراسه تهدف إلى اكتشاف مدى وعى المسافرين ومعرفتهم بالتأثير البيئى الضار للطيران الجوى وإذا ما كانت هذه المعرفة لديها تأثير إيجابي على اختيار العميل للسفر مع شركة طيران معينة.كما تهدف أيضاً لتحديد إذا ما كان المسافرون يدركون الجهود المبذوله من قبل شركات الطيران للحد من هذه الأثار البيئيه. وقد تم جمع البيانات من خلال استبيان تم توزيعه عشوائيا بين السياح في مطار القاهرة الدولي. وقد أظهرت النتائج انخفاض ملحوظ فى مستوى الوعي بين المسافرين فيما يتعلق بالإجراءات البيئية لشركات الطيران. كما أظهرت النتائج أيضاً أن المسافرين يضعون فى اعتبارهم عوامل كثيرة عند الشراء من شركات الطيران مثل التكاليف، والخدمات، وتوافر الطرق المرجوة.وقد قدمت الدراسه العديد من التوصيات والدراسات المستقبليه.