Eco-positioning of airlines: Perception versus actual performance

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ABSTRACT

To date there has been little research in air transport into the eco-positioning of airlines, that is, their environmental image relative to other airlines and how actual environmental performance relates to this eco-positioning. This paper identifies the environmental perceptions that passengers hold of twelve airlines and relates these perceptions to airlines' actual environmental performance, using load factors, aircraft age and the atmosfair Airline index as proxies for environmental performance. Based on a survey of over 600 passengers at Liverpool John Lennon Airport, the research analyses air travellers' perception of airlines from an environmental perspective. The results show that while there are significant differences in people's environmental perception of airlines, the eco-positioning of the airlines is not correlated to their actual environmental performance. The results support previous research findings in other industries that in many cases actual performance is less important than communicating environmental messages to the public in creating a superior eco-positioning.

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1. Introduction

Research conducted in the United Kingdom demonstrates that the airline sector generally has a poor environmental image in comparison to other industries (Benady, 2007). Therefore, airlines find it difficult to create a green image among the travelling public. This negative perception of airlines with regard to their environmental impact is not unique to the United Kingdom. It can also be found in other countries such as in the United States where 12% of customers suggest that flying less is one of the best three ways to reduce global warming, even if it is only ranked 8th by actual effectiveness (Bonini and Oppenheim, 2008). However, while the image of airlines based on environmental factors lags behind other industries, within the airline sector there are also significant differences.

The aim of this paper is to analyse the relationship between the environmental image of an airline relative to the environmental image of other airlines (eco-positioning) and their actual environmental performance. The "atmosfair Airline Index", load factors and aircraft age are used as indicators for environmental performance. There is strong support for the need to establish credibility in environmental marketing (e.g. Ottman et al., 2006), yet also

support for the focus on quantity (rather than content) of environmental marketing (e.g. Saha and Darnton, 2005). As such the paper will establish if high load factors, young aircraft fleets and a good performance on the atmosfair Airline Index are also reflected in the environmental image that airlines hold.

In Section 2 a literature review on eco-positioning, airline environmental marketing and green communication is provided. Section 3, the methodology, has a discussion of the three environmental performance indicators and the survey design. The three performance indicators and the airlines' eco-positioning are analysed in Section 4. Finally, the research implications and conclusions are presented in Section 5.

2. Literature review

2.1. Eco-positioning

There is a strong link between customers' perception of a company's brand image and its positioning in the market. Kotler and Armstrong (2010, p. 233) define product positioning as "the way the product is defined by consumers on important attributes — the place the product occupies in consumers' minds relative to competing products". While Kotler and Armstrong refer to products the same is true for individual companies in the market. With regard to green positioning and the link to green image, Saha and Darnton (2005, p. 127) point out that "it is a company's green

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positioning which represents their green image that is perceived by the public". This relationship between green image and eco-positioning means that these two aspects should be analysed together. In comparison to image, positioning does not only refer to consumers' attitudes towards the product or company but puts it into perspective with other products or companies in the market. Similarly to images which are shaped by perceptions, perceptions of a product or company also shape their positioning. The goal of positioning is to generate a competitive advantage in the mind of consumers over competitors' brands based on tangible or intangible product attributes (Gwin and Gwin, 2003). This paper will predominantly address tangible indicators i.e. load factors, aircraft age and an environmental indicator. However it needs to be borne in mind that intangible marketing elements can also affect airlines' environmental image.

Peattie (1995, p. 165) suggests that eco-positioning from a social/physical environment perspective "depends on the consumer's perception of the product and producer in relation to environmental and social problems and their potential solutions." This highlights that positioning both relates to products (or in the case of this research services) and the producer (i.e. the company). With increasing importance of environmental issues in societies, general market position and eco-position become more overlapped. This means that eco-positioning becomes part of the overall perception that consumers hold of a company (Peattie, 1995).

Research from other sectors has identified that green images and related to that green positioning can become an important marketing element to attract and retain customers (Lee et al., 2010). A green brand image can also help companies to generate green brand equity and so use this image as a differentiating factor in the market place i.e. give the company a new position in the market (Chen, 2010).

2.2. Airline environmental marketing

Peattie (1995) classifies transport as a "dark-grey" product which creates significant environmental issues and achieves low sustainability. This is particularly true for air transport given its growth rate and contribution to radiative forcing. Green airline products are difficult to generate because of air transport's environmental impacts. However, airlines have invested in "greener" products over the last few years and communicated these developments.

In general, Shaw (2011) divides the airline product into the two broad categories of aircraft related product features and customer-service related product features.

Aircraft related product features refer to the choice of aircraft itself, cabin configurations and classes of service. Furthermore these features also include network and schedule aspects (timings, frequencies) and punctuality (Shaw, 2011).

With regard to aircraft choice, airlines can introduce a greener product through a range of alterations. Initially, airlines can choose particular airframes that generate fewer greenhouse gas emissions than others. The atmosfair Airline Index (atmosfair, 2011a) indicates that the type of aircraft is the second largest factor in creating CO_2 efficiency of airlines, with passenger load factor being the top variable. When looking at aircraft propulsion, the use of turboprop aircraft can reduce airlines' fuel consumption in comparison to jet aircraft and related to that their greenhouse gas emissions. Particularly when environmental costs have to be internalised following government regulation, this can also generate economic benefits on top of any reduction in emissions (Ryerson and Hansen, 2010). Furthermore, aircraft age can also affect emissions with newer aircraft generally producing lower emissions. More recently, with increasing oil prices, airlines can

also achieve commercial benefits through the introduction of modern aircraft. These new airframes can result in a reduction in fuel consumption and therefore cost savings in this cost category. As fuel prices have risen in the last few years, fuel has become one of the largest cost categories for airlines (IATA, 2014). Additionally, some airports have started to introduce emission-based charges, which can be another commercial incentive to renew the fleet (Graham, 2014).

Increasing the capacity of aircraft can be a source of environmental improvement for airlines. Airlines can achieve this through using larger aircraft or increasing the number of seats per plane. Particularly for single-aisle aircraft a strong relationship between fuel efficiency and aircraft size can be recognised, while for large aircraft, such as the double deckers, this is less the case (Morrell, 2009). The importance of aircraft size in achieving improved fuel efficiency is also demonstrated by Kling and Hough (2011), who identify a decline in fuel consumption per available tonne kilometre with increasing payload capacity.

The use of fuel is a key issue in achieving a more sustainable air transport system. In response to supply pressures (i.e. high oil prices and limited resources) and subsequent economic incentives, biofuels can also help to address air transport related emissions. Many airlines have started to test biofuels. However, production of biofuels for air transport is not yet on an industrial scale and creates some issues in the production process (Nygren et al., 2009). Sgouridis et al. (2011) suggest that the use of biofuels can help to achieve CO_2 savings of between 6.6% and 17.0%, dependent on the type of biofuel and in conjunction with carbon pricing schemes.

The greening of service-related features has only limited impacts on airlines' environmental efficiency. These parts of the product mix are usually not represented in analyses of airline environmental efficiency (e.g. atmosfair, 2011a; Mason and Miyoshi, 2009). Nevertheless, IATA (2011) addresses the environmental benefits of waste management, particularly the role of recycling, as part of airlines' efforts to green their inflight product.

2.3. Green communications

Companies can actively influence their green brand positioning by communicating the environmental elements of the brand in comparison to competitors' brands (Hartmann et al., 2005). Companies have responded to this by increasing their focus on green marketing communications. For example, green advertising has grown significantly, by about 4000%, measured by expenditure in the United Kingdom from 2003 to 2007, with companies aiming to create green credentials through their communication strategy (Smart, 2010).

However, the approach to green communications in environmental marketing is rather ambiguous. At the centre of the discussion is how and whether green communications need to be substantiated and credible or if purely communicating "green" product attributes is sufficient.

Saha and Darnton (2005) suggest that the volume (i.e. how much is communicated about green credentials) has an impact on green positioning rather than whether these claims are accurate or not. Therefore some companies might be seen as less green than other companies, yet they actually might be more environmentally-friendly. This would elevate the importance of market communication with respect to green image and eco-positioning. Contrarily, Ottman et al. (2006, p. 31) have identified credibility as "the foundation of effective green marketing". They advocate that companies need to "employ environmental product and consumer benefit claims that are specific, meaningful, unpretentious, and qualified" (p. 34). Without credibility, companies can be open to scrutiny from environmental groups or regulators (Curtin, 2007;