The Effect of Airline's Sustainable Marketing on Corporate Image and Customer Loyalty

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Abstract: Recently, sustainable has become a mainstream topic for Airlines' managers. However, it is still need further study to exam whether to implement sustainable marketing can enhance the airline's corporate image and increase customer loyalty. Thus, the purpose of this study is to explore the influence of airline's sustainable marketing and corporate image on customer loyalty. The passengers of the domestic airlines were selected for conducting a survey based on the geographical distribution. This research applied structural equation modeling to test the goodness of fit of the research model. The results show that there have significant influence among the corporate social responsibility, corporate image and customer loyalty. The corporate social responsibility also has mediating effect between green marketing and corporate image/customer loyalty. Finally, this study provides some suggestions to managers for enhancing the sustainable marketing in airline industry.

Keywords: Sustainable Marketing, Green Marketing, Corporate Social Responsibility, Corporate Image, Customer Loyalty

1. INTRODUCTION

Because of limited resources and various environmental constraints, sustainable development has attracted attention in all facets of the society, including business management. Sustainability has become a mainstream topic for business managers and plays a key role in marketing because of its influence on consumer behavior (Gordon et al., 2011). To elevate customer satisfaction and loyalty as well as enterprise competitiveness, businesses dedicate themselves to improving product quality and organizing various promotional events. Studies have shown that marketing strategies related to sustainable development, such as social marketing (Dos Santos, 2009), environmental marketing (Funaru and Baranov, 2012), green marketing (Su and Wei, 2011), and corporate social responsibility fulfillment (Lii et al., 2013), can facilitate businesses in maintaining long-term business operation and management (Kim et al., 2015). Accordingly, businesses from various industries have introduced these marketing strategies to improve their corporate image and maintain relationships with their customers.

The concept of sustainability is commonly associated with green or environmentally friendly products and management (Peattie, 1995). United Nations defined sustainable development as "meeting the needs of the present without compromising the ability of future generations to meet their own needs." Van Dam et al. (1996) maintained that sustainable marketing involves providing consumers with what they truly need, instead of what businesses think they need. Fuller and Gillett (1999) argued that sustainable marketing was

derived from integrating waste management, and that the essence of sustainable marketing involves pollution prevention and waste recycling. Cooper (2005) indicated that sustainability entails limiting the resources used in productions and making the most appropriate use of available resources. Gordon et al. (2011) proposed the use of social marketing, green marketing, and critical marketing to achieve sustainable marketing. Many scholars have also stated that sustainable marketing involves the use of corporate social responsibility-oriented strategies to facilitate marketing communication, which enables businesses to build a favorable corporate image and reputation and achieve their strategic goals (Polonsky and Speed, 2001; Welford and Frost, 2006; Baghi et al., 2009; Bakar and Ameer, 2011). Seretny and Seretny (2012) asserted that sustainable marketing should be broadly defined as fulfillment of responsibility toward the planet that we live in. On the basis of the concepts put forward by the aforementioned scholars, the present study defined sustainable marketing as ensuring the continuity of the ecological environment and natural resources through green marketing and creating social values by fulfilling social ethics and corporate social responsibilities.

The airline industry is characterized by its high consumption of natural resources. Because of the waste and pollution generated during aircraft manufacturing processes as well as the waste gas and noise created during flights—which are detrimental to the environment and cause inconvenience to nearby residents—this industry has been viewed as non-environmental friendly and thus had a difficult time maintaining a favorable social image. According to statistics compiled by the European Environment Agency (2007), the global airline industry generated CO2 emissions that accounted for 2%–3% of the worldwide emissions, whereas yearly data compiled by the International Energy Agency (2015) showed an exponential growth in the greenhouse gas emissions produced by the international air transport industry. In addition, the airline industry's greenhouse gas emissions are expected to increase more than two fold from 572 million metric tons to 1.229 billion metric tons between 2000 and 2025; this growth is notably higher than those of many other industries (Anger, 2010). Because the overall operations of the airline industry have a major impact on the economy, society, and environment and that they create problems such as climate change, air pollution, noise pollution, biodiversity diminishment, waste generation, and other economic and social problems (Daley et al., 2008; Hooper et al., 2005; Lynes et al., 2006; Vellas, 2001), many airlines have strived to reduce such negative impacts to elevate their competitiveness. For example, two major airlines in Taiwan (i.e., EVA Air and China Airline) have also endeavored to differentiate themselves from their competitors to increase profits; in addition, they have implemented sustainable marketing to maintain their corporate reputation. Although previous studies have shown that by implementing sustainable marketing, businesses can improve their corporate image and engender values that match consumers' expectations (Sen and Bhattacharya, 2001; Charter et al., 2002; Nan and Heo, 2007; Bakar and Ameer, 2011), whether such an endeavor can improve the corporate image of airlines and elevate their consumers' loyalty remains to be investigated and is the primary topic investigated in the present study.

Previous studies have mostly focused on examining the implications of corporate social responsibility and green marketing and rarely explored their corporate image and customer loyalty in the context of sustainable marketing. However, this topic is essential to sustainable management in businesses. The results of this study can serve as a crucial reference to businesses when implementing sustainable marketing to elevate their corporate image and customer loyalty. In this study, sustainable marketing-based theories were adopted to identify the effect of sustainable marketing on an airline's corporate image and customer loyalty.

2. LITERATURE REVIEW

2.1 Sustainable Marketing

Marketing has inevitably resulted in consumption and thereby led to waste and pollution (Fuller and Gillett, 1999). This recurring process of consumption, marketing, manufacturing, processing, dumping, and polluting have caused severe damage to the environment (Saha and Darnton, 2005) and jeopardized the attainment of a sustainable future (Bandura, 2007). Sustainability has become a popular topic in marketing (Gordon et al., 2011). Cooper (2005) indicated that sustainability entails limiting the resources used in productions and making the most appropriate use of available resources to achieve sustainable business and ecological developments. Scholars have defined sustainable marketing as follows: (a) meeting customer demands; (b) achieving organizational goals; and (c) ensuring the coexistence between operation procedure and ecology (Fuller and Gillett, 1999). In many ways, the benefits of sustainable marketing outweigh monetary gains or other interests. This is because sustainable marketing promotes long-term business–society collaborations and continues to provide shared values. Broman and Robèrt (2017) argued that ecological, social and financial are three types of capital to a sustainable society and for the transition towards such a society. In addition, and more importantly, sustainable marketing is a marketing philosophy that demands that businesses maintain its environment ecology and appropriately use their limited social resources (Van Dam and Apeldoorn, 1996). Mitchell et al. (2010) put forward a sustainable marketing strategy, which involved the sustainability of the economy, society, and ecology. Hunt (2011) explained the importance of sustainable marketing and resource-advantage theories and noted that sustainable marketing can drive economic growth. Seretny and Seretny (2012) stated that sustainable marketing is an economic, social, and environmental issue and entails different, more efficient consumption. When investigating how sustainable marketing facilitates sustainable development, Danciu (2013) asserted that sustainable marketing pertains to a commitment to building a long-term relationship between the society and environment to achieve sustainable economic, social, and environmental developments. Calu et al. (2015) selected 30 environment and social indicators for developing a sustainable marketing strategy that includes supply, production, distribution. Gordon et al. (2011) proposed the use of social marketing, green marketing, and critical marketing to achieve sustainable marketing. Economic sustainability, which refers to a business' pursuit of profits and financial returns to ensure its sustainable operation, is considered a basic requirement for airlines. However, this requirement exerts a slight effect on airline customers. Therefore, the present study only explored the aspects of green marketing and corporate social responsibility in sustainable marketing.

Because of limited natural resources and unlimited human desire, anthropogenic developments have brought damage to the environment; this subsequently gave rise to the issue of environmental protection in the 1970s (Van Dam and Apeldoorn, 1996). Peattie (1992) defined green marketing as a marketing method adopted by businesses in response to the public's increasing attention to the protection of the global environment and the preservation of lifeforms on Earth. Peattie (2001) maintained that green marketing can be divided into three stages: (a) eco-marketing in the 1970s, which focused on specific environmental issues such as air pollution, petroleum consumption, and the impact of pesticides on the environment; (b) environmental marketing in the 1980s, which emphasized the promotion of clean technologies, understanding and targeting of green customers, viewing of favorable social environment performance as the potential and basis for gaining

competitive advantages, and encouragements provided to marketers to examine their business systems; and (c) the current sustainable marketing, which entails the creation of sustainable social and economic developments. Su and Wei (2011) asserted that green marketing is an environmentally friendly marketing strategy that accounts for consumer, corporate, and environmental demands and takes on the forms of green products, green promotion (charitable events), and green recycling. Gordon et al. (2011) stated that green marketing involves developing and marketing sustainable products and services.

Agreement has yet to be reached regarding the broad and narrow definitions of corporate social responsibility (Marrewijk, 2003; Smith and Langford, 2009). The earliest definition of corporate social responsibility was found in Carroll's pyramid of corporate social responsibility, in which four responsibilities must be fulfilled to achieve business sustainability; specifically, economic responsibility is placed at the bottom of the pyramid—followed by legal and ethical responsibilities—with philanthropic responsibility located at the top (Carroll, 1991). Angelidis and Ibrahim (1993) remarked that social activities constitute corporate social responsibility, and that the goal of corporate social responsibility is for businesses to satisfy social demands. Businesses' corporate social responsibility-oriented activities should match the values and expectations of the society; the idea of corporate social responsibility entails businesses' willingness to establish and implement policies that go beyond their legal obligations to benefit the society. Marketing is also affected by corporate social responsibilities (Charter, 2002); at present, businesses view their corporate social responsibilities as marketing demands that have not been met, and that by fulfilling their corporate social responsibilities can marketing communication be achieved, thereby meeting consumer expectations by transmitting values and improving corporate image, reputation, and values (Sen and Bhattacharya, 2001; Marrewijk, 2003; Bakar and Ameer, 2011). Corporate social responsibility entails reviewing social issues in addition to environmental issues (Peattie, 1992); pursing businesses' economic, legal, ethical, and philanthropic developments; and meeting the demands of society (Angelidis and Ibrahim, 1993). Scholars have begun to use corporate social responsibility as a sustainability-oriented strategy to provide businesses with a unique competitive advantage and deliver comprehensive benefits to the society (Rodriguez et al., 2002; Smallbone, 2004; Porter and Kramer, 2006; Kim et al., 2015). Some scholars have asserted that sustainable marketing involves the use of corporate social responsibility-oriented plans to facilitate marketing communication, which enables businesses to build a favorable corporate image and reputation and achieve their strategic goals (Welford and Frost, 2006).

Green marketing enables businesses to fulfill their corporate responsibilities to the society, raises their attention to potential environment problems, and investigates from various perspectives the effect of the environment on both the society and businesses. Suki et al. (2016) suggests that green marketing has positive influence on corporate social responsibility. Green marketing facilitates environmental protection and ecological maintenance, which are the responsibilities of businesses expected by the public. In addition, green marketing entails responding to social demands and engaging in sustainable marketing processes; hence, green endeavors facilitate businesses in perceiving the importance of ethics. To airlines, green marketing can be viewed as a means for increasing their fulfillment of corporate social responsibility. Accordingly, this study proposed Hypothesis 1 (H1):

H1: Green marketing exerts a positive effect on an airline's corporate social responsibility.

2.2 Corporate Image

Corporate image refers to people's impression of a business when they hear or see its name or logo (Argenti, 2009), denotes the market's trust in the business, and reflects the attitude toward the business elicited through its experiential or marketing communication (Cretu and Brodie, 2007). In addition, corporate image is a treasure that businesses must manage (Abratt and Mofokeng, 2001) to ensure a sustainable competitive advantage (Seetharaman et al, 2001). Aaker et al. (1990) reported that products, corporate credibility, corporate culture, and employee–customer relationships are factors that constitute corporate image. To study airlines' corporate image, Liou and Chuang (2009) targeted Taiwanese airlines and used five dimensions (e.g., ethics, management, economics, services, and convenience) and 16 criteria to investigate critical factors that influenced airlines' corporate image.

In recent years, the rise of environmental awareness has prompted businesses to engage in green endeavors. Arseculeratne and Yazdanifard (2014) highlighted that green products can create a positive brand and corporate image, increase the attractiveness of the products, and enhance corporate recognition. Exploring the environmental protection motivation of Northern European airlines, Lynes and Dredage (2006) found that having an environmentally friendly image can enhance their overall corporate image.

Green corporate image can elevate customer satisfaction and satisfy their green demands (Chen, 2010). Airlines that demonstrate an environmentally friendly image facilitate communication with the regulatory authority, promoting the development of adequate regulatory mechanisms in the airline industry. Ginsberg and Bloom (2004) claimed that effective implementation of green marketing can strengthen the emotional bonds between customers and brands. Businesses with green brands create a relatively more positive image, which increases their sales and share prices. Therefore, this study posits that by implementing green marketing, airlines will elevate the customer satisfaction and thereby change customer perception of the airlines. According to the aforementioned assertions, this study formulated Hypothesis 2 (H2):

H2: Green marketing exerts a positive effect on an airline's corporate image.

The literature review showed that the sponsoring, charitable, and philanthropic endeavors engaged by the two Taiwanese airlines have exerted positive effects on the society. Corporate social responsibility constitutes a main component of marketing communication, meeting consumer expectations through transmitting values and improving corporate image, reputation, and values (Nan and Heo, 2007; Bakar and Ameer, 2011). Sustainable marketing involves the use of corporate social responsibility-oriented plans to facilitate marketing communication, which enables businesses to build favorable corporate image and reputation and achieve their strategic goals (Welford and Frost, 2006; Baghi, 2009). In addition, the "manifestation" of corporate social responsibilities in products will have a positive effect on business image (McWilliams and Siegel, 2001). For example, airlines can employ newer aircraft models to conserve energy and reduce carbon emissions. Social benefits created through fulfilling corporate social responsibilities facilitate elevating corporate image (Peattie, 1992). By engaging in philanthropic endeavors and sponsoring environmental activities, airlines transmit green values and contribute to the society, which subsequently elevate their corporate image. Therefore, Hypothesis 3 (H3) was proposed as follows:

H3: Corporate social responsibility exerts a positive effect on an airline's corporate image.

2.3 Customer Loyalty

Loyalty refers to customers' loyalty to a brand, store, manufacturer, or service provider and is related to their preferences, views, and behavioral responses. Loyalty includes attitude and

behavioral loyalties (Zikmund et al., 2003). Attitude loyalty signifies customers' repurchase intentions, willingness to buy other products from the same company, tendency to recommend the company to others, and unwillingness to switch to other brands, whereas behavioral loyalty denotes customers' actual repurchase of products or services from the same company, as well as their engagement in disseminating positive word of mouth (Lee et al., 2001). Jones and Sasser (1995) contended that loyalty can be divided into long-term and short-term; the former involves customers who will continue to purchase products or services from the same company, whereas the latter entails customers who will change companies when more desirable products or services are available.

Customer loyalty affects business sales and has been widely explored by scholars in various industries, including the airline industry. Ostrowski et al. (1993) indicated that airlines' corporate reputation and customer loyalty are significantly correlated. Whyte (2002) divided customer loyalty into four levels for the airline industry, which consisted of (a) disloyal customers who have no fixed preferences and are easily influenced by product/service prices and marketing methods employed; (b) "pseudo-loyal" customers who are loyal only because of mileage award programs that are being offered; (c) potentially loyal customers who frequently use the flight services; and (d) loyal customers who prefer to fly with a particular airline. Zins (2001) asserted that customer loyalty is affected by corporate image, customer satisfaction, and customer perception of product quality and value. Sirdeshmukh (2002) investigated customer trust, value, and loyalty in non-business travelers and reported that management policies introduced and implemented by airlines have a positive effect on customer loyalty. Anuwichanont (2010) used different perspectives to explore the relationship between customer commitment and loyalty in the airline industry and determined that information complexity, role participation, brand preferences and trust, and autonomy will positively influence customers' behavioral loyalty. Chang and Chen (2007) showed that trust, respect, special services, emotional connection with airlines, and conversion barrier influence customer loyalty.

Consumers' purchase behavior in different markets has gravitated toward the purchase of environmentally friendly products (Suki and Suki, 2015; Suki et al., 2016). For example, customers in supermarkets and furniture stores will consider the impacts that the products or services that they wish to purchase will have on the environment. They will perceive environmental friendly products or services as of higher quality and purchase them accordingly. Ottman (2011) indicated that consumers will pay for green premium under the following circumstances: (a) the products purchased will save the customers' money; (b) the products positively affect their health; and (c) they perceive the brand as sustainable. Arseculeratne and Yazdanifard (2014) maintained that because green products are environmentally friendly, they can form a spiritual bond with customers. Because consumers tend to pay for premiums if the brands are considered sustainable, airlines are committed to elevating their green image (Mayer et al., 2012). Thus, the present study hypothesized that airlines' endeavors to engage in green marketing, reduce environmental pollution, and protect natural resources will influence their customers' repurchase intentions. Accordingly, this study introduced Hypothesis 4 (H4):

H4: Green marketing exerts a positive effect on customer loyalty

Businesses may view corporate social responsibility as a form of investment to differentiate their products and elevate their competitive advantage (McWilliams and Siegel, 2001). For example, airlines may use local food ingredients in their airline meals and beverages, thereby promoting the local economy, enhancing the uniqueness of their catering services, and achieving the goal of carbon reduction. Lee et al. (2010) stated that businesses can elevate their competitiveness by fulfilling their corporate social responsibilities, whereas

consumers can show their support for such actions by demonstrating a higher purchase intention of the businesses' products and services (Mohr and Webb, 2005) as well as be willing to pay for the premiums (Laroche et al., 2001; Kang et al., 2012). Overall, sustainable development entails the social, economic, and environmental aspects. When airlines fulfill their social responsibilities, their corporate image improves, which positively affects the customers' satisfaction and loyalty. Therefore, the present study postulated that airlines' social endeavors will enhance consumers' image of the airlines and subsequently influence their assessments of the airlines, their repurchase intentions, and their intentions to disseminate positive word of mouth. This study thus put forward Hypothesis 5 (H5):

H5: Corporate social responsibility exerts a positive effect on customer loyalty

Customer satisfaction and loyalty facilitate favorable corporate image, which increases business sales (Nguyen and LeBlanc, 2001) and attracts investors and future employees. In addition, it elevates profits by reducing the negative impacts created by competitions (Kim et al., 2011). Corporate reputation directly and indirectly influences consumers' purchase intention and is a major driving force behind their psychological bonds with the businesses (Park et al., 2006; Kim and Hyun, 2011). Therefore, corporate image and reputation are key factors for developing and maintaining customer loyalty (Zins, 2001). Corporate image has a positive effect on customer loyalty (Alireaz et al., 2012). Nadiri et al. (2008) studied passengers of Northern Cypriot airline and indicated that airlines' tangible quality and image have a positive effect on customer satisfaction and repurchase intention. Chen and Lin (2006) investigated the effect of corporate image on passenger loyalty in the Taiwanese airline industry, revealing that service reputation and marketing recognition, which are the dimensions of corporate image, exert a positive effect on passenger loyalty. Therefore, the present study posited that favorable corporate image elevates consumer satisfaction, which increases consumers' repurchase intention and loyalty. Accordingly, Hypothesis 6 (H6) was proposed as follows:

H6: Corporate image exerts a positive effect on customer loyalty

Figure 1 depicts the framework of this study built on the basis of the literature review and aforementioned hypotheses. Sustainable marketing of the airline industry was set as the focus to explore its effect on corporate image and customer loyalty, in addition to examining how consumers' sustainable behavior mediates this effect.
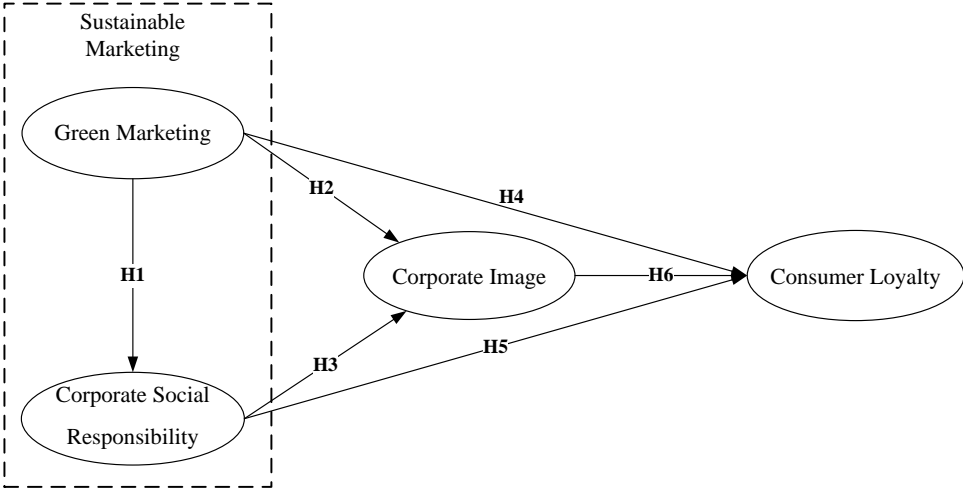

Figure 1. Theoretical Model

3. METHOD

3.1 Measurements

The present study referred to related literature and determined the operational definitions for all of the variables. Each item was measured using a five-point Likert scale, in which a score of 1 and 5 indicated *strongly disagree* and *strongly agree*, respectively. The items are listed in Table 1, and all related variables in the framework are defined as follows.

Table 1. Measurement Items for Each Dimension

Construct	Measurements			References
Green Marketing	V1.	This airline uses newer aircraft for energy saving		Mayer et al. (2012); Miyoshi and Mason (2009)
	V2.	This airline increases seats for fuel efficiency		
	V3.	This airline offers affordable and environmentally friendly accessories on the plane		
	V4.	This airline encourages passenger reaching airport by public transport		
	V5.	This airline has a positive attitude towards environment		
	V6.	This airline carries out the recycling of waste		
	V7.	This airline promotes paperless service, e.g. self-check-in counter, e-boarding pass		
	V8.	This airline prefers environmentally friendly products and supports local product.		
Corporate Social Responsibility	V9. Safety	●	This airline provides reliable transport service	Chen et al. (2011); Garcia de los Salmones et al. (2005)
		●	This airline provides safe environment to employee and customer	
	V10. Environmental protection	●	This airline reduces pollution	
		●	This airline follows environmental policy and international convention	
		●	This airlines uses recycled energy	
	V11. Social Participation	●	This airline provides voluntary support while emergency happened	
		●	This airline joins charity events by donating fixed surplus	
		●	This airline set up independent institutions engaged in charity	
		●	This airline encourages employees to participate in volunteer service	
	V12. Consumer Rights and Interests	●	This airline respect and protect customer privacy and personal data	
		●	This airline does not deceive or mislead consumers by advertising or promotion	
		●	This airline treats customer complains seriously and efficiently.	
Corporate Image	V13.	This airline has better image than competitors.		Walters (1978); Keller (2002); Nguyen and LeBlanc (2001)
	V14.	This airline provide an impressive service.		
	V15.	This airline has a good reputation.		
Consumer Loyalty	V16.	My willingness to choose this airline will not be affected by other competitive offer		Zins (2001)
	V17.	I would like to recommend this airline to others		
	V18.	I would like to choose this airline again		

Note: Items coded with the letter V in front signify that they are measurement variables.

The airline industry implements green marketing to show its commitment and concerns for the environment and thereby build a green image (Chen, 2010). Miyoshi and Mason

(2009) proposed that airlines engage in green marketing by demonstrating their use of low fuel-consumption air fleets and high-density cabin space. Mayer et al. (2012) used a 9-item questionnaire to analyze passengers' assessment of airlines' endeavors to improve environmental protection, evaluating how the airlines use new aircraft models, increase the number of seats, provide fair trades and organic products, encourage their passengers to arrive at the airport by using use public transportation, demonstrate a positive attitude toward environmental protection, reduce the number of meals provided, engage in carbon offsetting, test biochemical fuels, and replace jet aircrafts with propeller aircrafts. The present study designed the questionnaire items by referring to the green marketing scale developed by Lin and Zhang (2011), as well as the scale designed by Mayer et al. (2012), who evaluated current airlines' implementation of green market communication. Regarding the scale of Mayer et al., the item concerning the reduction of the number of meals provided was removed because it was inapplicable to the two major Taiwanese airlines examined in this study. The last three items of the scale were also excluded because passengers might have difficulty perceiving or understanding them (i.e., recycling wastes, providing paperless services, and prioritizing environmentally friendly and local products). Finally, eight items regarding green marketing were formulated.

The four corporate social responsibility dimensions (i.e., economic, legal, ethical, and philanthropic responsibilities) proposed by Carroll (1991) have served as the basis for fulfilling corporate social responsibilities. However, the present study referred to the four dimensions introduced by Chen et al. (2010) specifically designed to measure the airline industry's corporate social responsibilities (i.e., safety, environmental protection, social participation, and consumer rights and interests). In other words, these four dimensions served as the measurement variables of the present study. The measurement dimensions and items were modified to formulate 12 items listed as follows: 2 items on safety, 3 items on environmental protection, 4 items social participation, and 3 items on consumer rights and interests. In subsequent analyses, the mean scores of each dimension were adopted as the analytical data.

This study also referred to the view of corporate image introduced by Nguyen and LeBlanc (2001) and used three items (i.e., corporate image, corporate reputation, and service image) to measure airlines' corporate image.

Finally, this study used the dimensions of attitude loyalty and behavioral loyalty proposed by Zikmund et al. (2003) to measure customer loyalty, and adopted three loyalty items based on the measurement indices of Zins (2001).

3.2 Data Collection

This study mainly investigated EVA Air and China Airline, two major airlines in Taiwan, and surveyed passengers who had travelled with the two airlines. The objective was to explore the effect of sustainable marketing implemented by the airlines on their corporate image and customer loyalty, as well as examining how consumers' sustainable behavior mediated this effect. The surveyors of this study distributed printed questionnaires at Terminals 1 and 2 of the Taoyuan International Airport, in which a random sampling method was adopted to invite passengers of the two airlines to fill out the questionnaire. The passengers were confirmed whether they have travelled with either or both airlines before they could proceed to complete the questionnaire, which was then collected immediately after each items had been answered. Hair et al. (1998) indicated that when performing structural equation modeling, the number of valid samples should either be five times the number of questionnaire items or at least 200. Because the questionnaire used in the present study contained 35 items, the minimum sample

size should be 175. Therefore, to enhance the representativeness of the questionnaire responses, at least 200 copies of the questionnaire were distributed to passengers of each airline, yielding at least 400 copies.

In the end, 427 copies of the questionnaire were distributed, and 368 and 59 valid and invalid questionnaires were returned, respectively, with a valid return rate of 86%. Of the valid questionnaires, 191 and 174 evaluated China Airlines and EVA Air, respectively, with a total of 163 male (44.3%) and 204 female (55.4%) respondents. The majority of the respondents aged between 21–40 years (73.6%); were college and university graduates (71.5%); earned an income between NT\$30,001 and NT\$60,000 (49.7%); were employees in general businesses (48.4%); lived in northern Taiwan (77.4%); had travelled by air before (93.5%); travelled for tourism purposes (74.2%); traveled by air once every six months to once a year (41.6%) or less than once a year (36.1%); and mostly travelled to Northeast Asia (39.85%) and Southeast Asia (27.66%). About the descriptive statistics, the means of all items of green marketing are larger than 3.53; the items of corporate social responsibility are larger than 3.74; the items of corporate image are larger than 4.09; the items of corporate image are larger than 3.48. It shows that our respondents who were more likely to agree to the items.

3.3 Analysis

This study verified model fitness by using structural equation modeling. Principally, structural equation modeling consists of two analysis procedures, namely, confirmatory factor analysis and path analysis. Confirmatory factor analysis examines whether complex variables exist in a model, whereas path analysis estimates the path relationship between variables. Prior to a path analysis, a confirmatory factor analysis should be performed to prevent complex variables from generating unfitted models or nonsignificant paths. Bagozzi and Yi (1988) asserted that structural equation modeling should be measured using basic fitness, overall fitness, and internal structure fitness. By contrast, Hoyle and Panter (1995) maintained that χ^2 be nonsignificant for desirable fit. However, because χ^2 is sensitive to sample size and thus easily yields significant differences, solely using χ^2 to determine model fitting is insufficient. In general, χ^2/df is used to examine statistical fit, in which a fit value of <3 indicates favorable fit, and a fit value of 5 can be used as the rule of thumb for an acceptable fit level. (Jöreskog and Sörbom, 1993). For indices such as GFI, AGFI, NFI, TLI, IFI, and CFI, a high index value denotes favorable fit; in particular, a fit value of >0.9 signifies excellent fit. By contrast, for RMR, SRMR, and RMSEA, an index value of <0.05, 0.05–0.08, and 0.08–0.10 indicate excellent, good, and average fit levels, respectively (MacCallum et al., 1996).

4. RESULTS

4.1 Reliability and Validity Analysis

To analyze the reliability of the questionnaire items, this study evaluated their Cronbach α coefficients (Cronbach, 1951). As shown in Table 2, all dimensions displayed a reliability value of 0.75 or above, indicating that the dimension variables possessed favorable reliability.

Table 2. Reliability Analysis

Construct	Cronbach's α	Construct	Cronbach's α
Green Marketing	0.885	Corporate Image	0.891
Corporate Social Responsibility	0.944	Consumer Loyalty	0.766

Regarding the validity of the questionnaire items, they were compiled on the basis of contents designed by various experts and scholars, and had been adjusted through pretest questionnaires; hence, these items already possessed content validity. Concerning discriminant validity, differences between the dimensions were calculated using the chi-square difference test (Anderson and Gerbing, 1988). As shown in Table 3, the chi-square values of the dimensions increased significantly when the correlation coefficients of the dimensions assessed in pairs were controlled as 1. This indicated that the dimensions exhibited favorable discriminant validity.

Table 3. Chi-square Differences between the Dimensions

		Unrestricted		Restricted		$\triangle \chi_1^2$
		χ_1^2	df	χ_1^2	df	
Green Marketing	Corporate Social Responsibility	155.8	53	360.5	54	204.7*
	Corporate Image	121.7	43	706.5	44	584.8*
	Consumer Loyalty	145.9	43	468.0	44	322.1*
Corporate Social Responsibility	Corporate Image	76.7	13	597.2	14	520.5*
	Consumer Loyalty	80.2	13	362.8	14	282.6*
Corporate Image	Consumer Loyalty	11.8	8	275.3	9	263.5*

Note: * denotes a significance level of p < 0.05。

4.2 Confirmatory Analysis

This study initially measured the four dimension variables by using a total of 18 measurement variables; the fitness results are shown in Table 4. The measurement model had a χ_1^2 value (df= 129, N =368) of 339.61, p value of less than 0.0001, and χ_1^2/df ratio of 2.633, denoting favorable model fit. In addition, the values of all fit indices lied within the acceptable standards, verifying that the applied variables did not exert undesirable effects on the causal analyses. In other words, the measurement model was feasible for the subsequent path analyses. Next, characteristic of the revised model were assessed, as shown in Table 5. The standardized loadings of the measurement variables were significant (p = 0.05), demonstrating favorable measurement effects (Bagozzi & Yi, 1988). Furthermore, all of the dimensions had a composite reliability greater than 0.5 (i.e., > 0.7), confirming that the measurement variables used for each dimension were consistent. Moreover, all of the dimension variables had an average variance extracted greater than 0.5 and thus possessed favorable validity.

Table 4. Fitness Indices of the Measurement Model

χ_1^2	df	χ_1^2/df	GFI	AGFI	RMR	SRMR	RMSEA	NFI	TLI	IFI	CFI
339.61	129	2.633	0.909	0.88	0.039	0.0618	0.067	0.92	0.939	0.949	0.948

Table 5. Analysis of Measurement Model

Variables	Standardized factor loading	t-value	Composite reliability	Variance extracted estimates
Green Marketing			0.892	0.517
V1	0.712	15.327*		
V2	0.453	8.467*		
V3	0.673	14.237*		
V4	0.737	16.073*		
V5	0.845	19.699*		
V6	0.853	19.994*		
V7	0.570	11.549*		
V8	0.822	18.882*		
Corporate Social Responsibility			0.894	0.738
V9	0.707	15.143*		
V10	0.891	21.386*		
V11	0.855	19.994*		
V12	0.830	19.082*		
Corporate Image			0.896	0.743
V13	0.829	18.859*		
V14	0.808	18.217*		
V15	0.943	23.044*		
Consumer Loyalty			0.845	0.733
V16	0.589	11.674*		
V17	0.926	20.458*		
V18	0.780	16.396*		

Note: * denotes a significance level of p < 0.05。

4.3 Path Analysis

First, path relationships between the latent variables were set according to the study hypotheses. Next, the significance level of each path was calculated and model verifications were performed. Examining the model fit revealed that the a χ_1^2/df value of 2.633 (339.61/129), a GFI value of 0.909, an AGFI value of 0.88, an RMR value of 0.039, an SRMR value of 0.0618, an RMSEA value of 0.067, an NFI value of 0.92, a TLI value of 0.939, an IFI value of 0.949, and a CFI value of 0.948, indicating that the study model demonstrated acceptable fitness.

The path analysis results, shown in Table 6 and Fig. 2, supported four of the study hypotheses. H1 (Green marketing has a positive effect on corporate social responsibility) attained a standardized path coefficient of 0.830, confirming the substantial effect of airlines' green marketing on their corporate social responsibility. H3 (Corporate social responsibility has a positive effect on airlines' corporate image) demonstrated a standardized path coefficient of 0.459, indicating that corporate social responsibility exhibited a certain extent of effect on airlines' corporate image. However, two of the study hypotheses were rejected. H5 (Corporate social responsibility has a positive effect on customer loyalty) exhibited a standardized path coefficient of 0.211, showing that corporate social responsibility also notably affected customer loyalty. H6 (Corporate image has a positive effect on customer loyalty) had a standardized path coefficient of 0.461, validating that airlines' corporate image had a crucial effect on customer loyalty.

H2 (Green marketing has a positive effect on airlines' corporate image) was rejected because it had a standardized path coefficient of 0.005 and a nonsignificant p value. H4 (Green marketing has a positive effect on customer loyalty) was also rejected because it exhibited a standardized path coefficient of -0.006 and a nonsignificant p value. These results indicate that green marketing does not directly affect corporate image or customer loyalty.

Thus, this study further investigated the mediating effects of corporate social responsibility.

Table 6. Path Analysis of Research Model

Dependent Variable	Independent Variable	Standardized factor loading	t-value	R2
Corporate Social Responsibility				0.689
	Green Marketing (H1)	0.830	16.965 *	
Corporate Image				0.214
	Green Marketing (H2)	0.005	0.046	
	Corporate Social Responsibility (H3)	0.459	4.149 *	
Consumer Loyalty				0.343
	Green Marketing (H4)	-0.006	-0.06	
	Corporate Social Responsibility (H5)	0.211	1.937 *	
	Corporate Image (H6)	0.461	7.981 *	

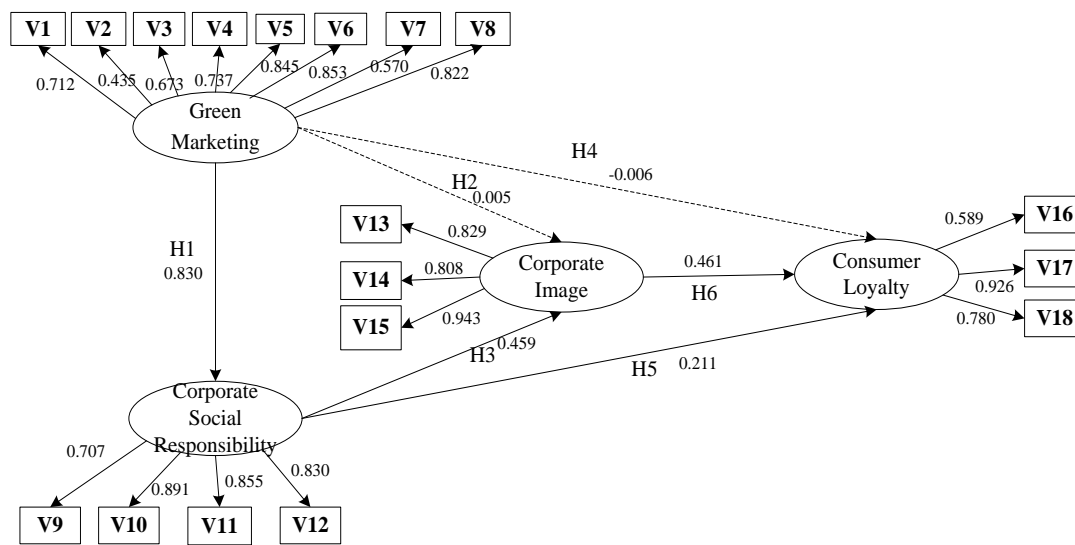Note: * means a result that was significant in the t-test ($p < 0.05$)

Fig. 2. Path Analysis (Dotted line representatives non-significant)

4.4 Mediation Analysis

The present study performed analyses by using the four-condition verification method proposed by Baron and Kenny (1986). Specifically, the first condition was that "the effect of green marketing (independent variable) on corporate social responsibility (mediating variable) must be significant." The second condtion was that "the effect of corporate social responsibility (mediating variable) on corporate image or customer loyalty (dependent variables) must be significant." The third condition was that "the effect of green marketing (independent variable) on corporate image or customer loyalty (dependent variable) must be significant." The fourth condition was that "when both green marketing (independent variable) and corporate social responsibility (mediating variable) are incorporated into the model, the mediating effect of corporate social responsibility is verified if the effect of green marking on corporate image or customer loyalty (dependent variables) becomes diminished or nonsignificant." Because the original model analysis already verified Conditions 1, 2, and 4, only Condition 3 required further verification. The results confirmed the significant and direct effect of green marketing on corporate image and customer loyalty, which attained a standardized path coefficient of 0.381 (t-value = 7.022) and 0.343 (t-value = 76.129), respectively; in other words, corporate social responsibility fully mediated the effect of green

marketing on corporate image and customer loyalty.

Next, this study used bootstrapping to verify the significance of the meditating effect. As shown in Table 7, the confidence interval did not include 0, confirming that the mediating effect was statistically significant. The aforementioned results showed that green marketing significantly affected corporate image and customer loyalty, and that corporate social responsibility fully medicated the effect of green marketing on corporate image and customer loyalty.

Table 7. Bootstrap Results of Mediation Analysis

Relationship	95% Confidence interval	Result
Green Marketing→Corporate Image	〔0.184, 0.560〕	Significant
Green Marketing→Consumer Loyalty	〔0.176, 0.475〕	Significant

5. CONCLUSION AND DISSCUSION

5.1 Conclusion

This study investigated whether the concept of sustainable marketing is applicable to airlines, and whether it would exert concrete effects on them. Customers of two major Taiwanese airlines were selected as the survey participants, and related data were collected using a questionnaire. Structural equation modeling was performed to explore the effects of airlines' sustainable marketing on their corporate image, customer loyalty, and customer sustainable behavior. The results verified the positive effect of green marketing on corporate social responsibility, indicating that green marketing emphasizes social ethics and serves as a method for corporates to conduct marking while fulfilling social responsibility; in other words, green marketing enables fulfilling corporate social responsibility, and H1 was supported. Moreover, corporate social responsibility was determined to exert a direct and positive effect on corporate image, as reported by previous scholars; that is, marketing communications conducted through corporate social responsibility fulfillment generate social benefits that improve corporate image; thus, H3 was supported. Corporate social responsibility also had a direct and positive effect on customer loyalty, as indicated by Lee et al. (2013), who stated that by fulfilling corporate social responsibility, businesses will improve their competitiveness and motivate their customers to pay for premiums; hence, H5 was supported. Corporate image also demonstrated a positive effect on customer loyalty, concurring with the results of previous scholars; that is, favorable corporate image served as a conversion barrier that prevented customers from changing their purchase intentions and maintained their loyalty regardless of the marketing tactics employed by competitors; thus, H6 was supported.

However, the effect of green marketing on corporate image and customer loyalty were rejected (i.e., H2 and H4), which differed from the results obtained by previous scholars. Nevertheless, corporate social responsibility fully mediated the effect of green marketing on corporate image. This signified that although previous studies have asserted that green marketing directly and positively influence airlines' corporate image and customer loyalty, this effect is actually attributable to the indirect effect of corporate social responsibility on corporate image and customer loyalty. In other words, corporate social responsibility fully mediates the effect of green marketing on airlines' corporate image and customer loyalty.

5.2 Managerial Implication

The results of this study showed that corporate social responsibility fulfillment by airlines

exhibited a positive effect on their corporate image and customer loyalty, indicating corporate social responsibility as a key factor affecting corporate image and customer loyalty. The most important function of flight services is to transport passengers to their destinations safely. Accordingly, corporate social responsibility, which covers the dimensions of safety, environmental protection, social participation, and consumer rights and interests, becomes an essential factor affecting customer intention and influences corporate image. Of the aforementioned four dimensions, safety has the greatest effect on corporate image (Liou and Chuang, 2009). Thus, airline managers can change consumers' perception of the airlines by having the airlines take corporate social responsibility-oriented actions, including those that are currently being employed as well as those that have not yet been engaged in. For example, businesses may sponsor poor children's tuition and school lunch fees, provide care services for elderly adults who live alone, support animal protection groups, and promote Taiwan's literature and art. Such endeavors will bring the airlines closer to consumers, allowing the consumers to witness their actions. This enables the airlines to gain competitive advantages, improve their corporate image, and elevate customer loyalty, which in turn increases the airlines' profits.

This study focuses on explore the relationships among green marketing, CSR, image and loyalty, especially about the relationship between green marketing and CSR. According to the result, green marketing does not directly affect corporate image or customer loyalty. The mediating effect analysis showed that green marketing indirectly influenced corporate image and customer loyalty through corporate social responsibility. This indicates that when airlines engage in green marketing, consumers will view the airlines as providers of environmentally friendly, sustainable products and services that satisfy consumer and society needs. In addition, green marketing can be viewed as a corporate social responsibility-oriented action. In addition to implementing green marketing measures, businesses should follow corporate social responsibility-related policies, such as promoting the use of public transits for reducing environmental pollution, environmentally friendly, recyclable materials for decreasing waste production, and paperless operations for protecting the ecosystem, thereby maximizing the effects of green marketing.

Because the core function of the airline industry is to transport passengers, airlines' green endeavors are rarely perceived by consumers. The means of all items of green marketing are 3.53-4.21 while the items of corporate image are 4.09-4.13. That shows respondents had lower awareness of green marketing than the image. Thus, airline managers should improve green marketing communications, differentiate the airlines from their competitors by disseminating green messages, use a variety of media and marketing methods to let consumers know about the airlines' green endeavors, and teach consumers about the benefits that the airlines' green marketing actions bring to the environment and society. Such engagements will change consumers' view of the airlines and enable the airlines to build a favorable image. Managers should focus on satisfying consumers' green demands, strengthening the implementation of green marketing, and increasing the amount of green endeavors (e.g., promoting the use of electronic boarding passes, environmental luggage tags, and organic ingredients, as well as accelerating the rate at which old aircraft models are replaced). This enables changing the public's impression of the airlines. The environmental implications of green products can be utilized to develop a spiritual bond with customers, create green image, and thereby retain the customers. Such efforts will subsequently improve the overall corporate image and customer loyalty.

5.3 Limitation and Future Research

Although the present study attempted to use rigorous and complete designs, few limitations still existed. These limitations are addressed as follows to facilitate improvements in future studies. First, because the participants were not frequent flyers, the answers that they provided were based on their subjective perception; whether the participants had a thorough understanding of the airlines or correctly understood the questionnaire items remained questionable. Therefore, their responses may be biased. Future studies may select frequent flyers as participants to further clarify airlines' endeavors and obtain more comprehensive results.

Second, the effect of airlines' sustainable marketing on their corporate image and customer loyalty may differ between distinct groups of people. Therefore, future studies may choose to perform in-depth investigations on different industries, air routes, and subjects of different genders, ages, education levels, and residence locations to gain insight into the effect of airlines' sustainable marketing on different demographic groups as well as provide relevant managers with a more detailed reference. In this study, the participants mostly comprised customers of two major airlines in Taiwan. Future studies may expand its scope by including customers of foreign airlines to provide more comprehensive management implications.

Third, because of limited time and manpower, the questionnaire items were developed by modifying previous questionnaire items designed by various experts and scholars. Although this enabled the questionnaire items to match the themes explored in this study, some of the items yielded incomplete responses from the participants. This may be because the questionnaire items were based on foreign literature that has investigated foreign airlines and foreign participants. The differences in national conditions and cultures between these countries and Taiwan may have contributed to biased and incomplete responses. Future researchers may revise the questionnaire items or conduct expert interviews to develop items that are more suitable for Taiwanese consumers. This will allow Taiwanese respondents to more clearly understand the content of sustainable marketing before they fill out the items, thereby generating comprehensive data, accurate analytical results, and adequate management implications.

To understand the current situations of sustainable marketing in airlines, this study selected corporate image and customer loyalty as the primary dimensions. Considering time constraints and model complexity, this study mainly investigated the effect of airlines' sustainable marketing on their corporate image and customer loyalty. As a considerable number of airline-related literature has been published that explored the effects of green endeavors, environmental marketing, or corporate social responsibility on corporate image and customer satisfaction and trust, future studies are suggested to examined whether sustainable marketing has a direct and positive effect on customer satisfaction and trust, thereby contributing to the comprehensiveness of the theoretical model.

REFERENCES

Aaker, D., Keller, K. (1990) Consumer evaluations of brand extensions. *Journal of Marketing*, 54(1), 27-41.

Abratt, R., Mofokeng, T. (2001) Development and management of corporate image in South Africa. *European Journal of Marketing*, 35(3/4), 368-86.

Alireaz, A., Mahdi, D., Minoo, A., Zahra, A. (2012) Effectiveness of marketing strategies and corporate image on brand equity as a sustainable competitive advantage. *Interdisciplinary Journal of Contemporary Research in Business*, 4(2), 192-205.

Anderson, J., Gerbing, D. (1988) Structural equation modeling in practice: A review and

recommended two-step approach. *Psychological Bulletin*, 103(3), 411-423.

Angelidis, J., Ibrahim, N. (1993) Social demand and corporate strategy: A corporate social responsibility model. *Review of Business*, 15(1), 7-10.

Anger, A. (2010) Including aviation in the European emissions trading scheme: Impacts on the industry, CO2 emissions and macroeconomic activity in the EU. *Journal of Air Transport Management*, 16(2), 100-105.

Anuwichanont, J. (2010) Examining the relationship between commitment and airline loyalty and the moderating effect of uncertainty avoidance. *Journal of Business & Economics Research*, 8(9), 127-137.

Argenti, P. (2009) *Corporate Communication*, 5th Edition, Boston: McGraw Hill.

Arseculeratne, D., Yazdanifard, R. (2014) How Green Marketing Can Create a Sustainable Competitive Advantage for a Business. *International Business Research*, 7(1), 130-137.

Baghi, I., Rubaltelli, E., Tedeschi, M. (2009) A strategy to communicate corporate social responsibility: Cause related marketing and its dark side. *Corporate Social Responsibility and Environmental Management*, 16(1), 15-26.

Bagozzi, R.,Yi, Y. (1988) On the evaluation of structural equation models. *Journal of the Academy of Marketing Science*, 16(1), 74-94.

Bakar, A., Ameer, R. (2011) Readability of corporate social responsibility communication in Malaysia. *Corporate Social Responsibility and Environmental Management*, 18(1), 50-60.

Baker, M. Davis, E., Weaver, P. (2014) Eco-friendly attitudes, barriers to participation, and differences in behavior at green hotels. *Cornell Hospitality Quarterly*, 55(1), 89-99.

Banbury, C., Stinerock, R., Subrahmanyan, S. (2012) Sustainable consumption: Introspecting across multiple lived cultures. *Journal of Business Research*, 65(4), 497-503.

Barber, N., Deale, C. (2014) Tapping mindfulness to shape hotel guests' sustainable behavior. *Cornell Hospitality Quarterly*, 55(1), 100-114.

Bonini, S., Oppenheim, J. (2008) Cultivating the green consumer. *Stanford Social Innovation Review*, 6(4), 56-61.

Broman, G.I., Robèrt, K.H. (2017) A framework for strategic sustainable development. *Journal of Cleaner Production*, 140(1), 17-31.

Brown, K., Kasser, T. (2005) Are psychological and ecological well-being compatible? The role of values, mindfulness, and lifestyle. *Social Indicators Research*, 74(2), 349-368.

Calu, A., Negrei, C., Calu, D.A., Avram, V. (2015) Reporting of non-financial performance indicators – a useful tool for a sustainable marketing strategy. *Amfiteatru Economic*, 17(40), 977-993.

Carroll, A. (1991) The pyramid of corporate social responsibility: Toward the moral management of organizational stakeholders. *Business Horizons*, 34(4), 39-48.

Chang, Y.H., Chen, F.Y. (2007) Relational benefits, switching barriers and loyalty: A Study of airline customers in Taiwan. *Journal of Air Transport Management*, 13(2), 10-109.

Charter, M., Peattie, K., Ottman, J., Polonsky, M.J. (2002) Marketing and sustainability. Association with the Center for Sustainability Design. UK. Center for Business Relationships, Accountability, Sustainability and Society (BRASS)

Chen, C.Y., Lin, K.T. (2006) The influence of corporate image on customer loyalty in the domestic airline industry. *Journal of Tourism and Travel Research*, 1(10) 53-78. (In

Chinese)

Chen, Y.S. (2010) The drivers of green brand equity: green brand image, green satisfaction, and green trust. *Journal of Business Ethics*, 93(2), 307-319.

Cooper, T. (2005) Slower consumption: Reflections on product life spans and the throwaway society. *Journal of Industrial Ecology*, 9(1/2), 51-67.

Corral-Verdugo, V., Mireles-Acosta, J., Tapia-Fonllem, C., Fraijo-Sing, B. (2011) Happiness as correlate of sustainable behavior: a study of pro-ecological, frugal, equitable and altruistic actions that promote subjective wellbeing. *Human Ecology Review*, 18(2), 95-104.

Cretu, A., Brodie, R. (2007) The influence of brand image and company reputation where manufacturers market to small firms: A customer value perspective. *Industrial Marketing Management*, 36(2), 230-240.

Daley, B., Dimitriou, D., Thomas, C. (2008) The environmental sustainability of aviation and tourism. In Graham, A., Papatheodorou, A., Forsyth, P., (eds.) *Aviation and Tourism: Implications for Leisure Travel*. Aldershot: Ashgate Publishing Limited, 239-253.

Danciu, V. (2013) The contribution of sustainable marketing to sustainable development. *Management & Marketing Challenges for the Knowledge Society*, 8(2), 385-400.

Dos Santos, M.A. (2009) Achieving sustainable competitive advantage through the implementation of the societal marketing concept by a major retailer in South Africa. *Journal of Global Business and Technology*, 5(2), 39-49.

European Environment Agency (2007) *Annual European Community Greenhouse Gas Inventory 1990-2005 and Inventory Report 2007*, Technical Report No 7/2007.

Ferguson, M., Branscombe, N., Reynolds, K. (2011) The effect of intergroup comparison on willingness to perform sustainable behavior. *Journal of Environmental Psychology*, 31(4), 275-281.

Fuller, D., Gillett, P. (1999) Sustainable marketing: Strategies playing in the background. American Marketing Association Winter Educators' Conference Proceedings, 10, 222-223.

Funaru, M., Baranov, A. (2012) Environmental marketing-element for asserting the management of sustainable development. *Bulletin of the Transilvania University of Brasov*, 5(1), 53-58.

Ginsberg, J., Bloom, P. (2004) Choosing the right green marketing strategy. *Sloan Management Review*, 46(1), 79-84.

Gordon, R., Carrigan, M., Hastings, G. (2011) A framework for sustainable marketing. *Marketing Theory*, 11(2), 143-163.

Hair Jr, J., Anderson, R., Tatham, R., Black, W. (1998) *Multivariate Data Analysis*, 5th ed., Englewood Cliffs, NJ: Prentice-Hal.

Hooper, P., Greenall, A. (2005) Exploring the potential for environmental performance bench-marking in the airline sector. *Benchmarking: An International Journal*, 12(2), 151-165.

Hoyle, R., Panter, A. (1995) *Structural Equation Modeling, Concepts, Issues, and Applications*, Sage Publications, Thousand Oaks, CA.

Hunt, S. (2011) Sustainable marketing, equity, and economic growth: A resource-advantage, economic freedom approach. *Journal of the Academy of Marketing Science*, 39(1), 7-20.

International Energy Agency (2015) *CO2 Emissions from Fuel Combustion*, Highlights, 2015 Edition, International Energy Agency.

Jones, T., Sasser, E. (1995) Why satisfied customers defect. *Harvard Business Review*,

73(6), 88-99.

Jöreskog, K., Sörbom, D. (1993) *LISREL 8: Structural Equation Modeling with the SIMPLIS Command Language*, Lawrence Erlbaum Associates, Hillsdale, NJ.

Kang, K.H., Stein, L., Heo, C.Y., Lee, S. (2012) Consumers' willingness to pay for green initiatives of the hotel industry. *International Journal of Hospitality Management*, 31(2), 564-572.

Kim, J., Taylor, C.R., Kim, K.H., Lee, K.H. (2015) Measures of perceived sustainability. *Journal of Global Scholars of Marketing Science Bridging Asia and the World*, 25(2), 182-193.

Kim, J.H., Hyun, Y.J. (2011) A model to investigate the influence of marketing-mix efforts and corporate image on brand equity in the it software sector. *Industrial Marketing Management*, 40(3), 424-438.

Kim, K.H., Jeon, B.J., Jung, H.S., Lu, W., Jones, J. (2011) Effective employment brand equity through sustainable competitive advantage, marketing strategy, and corporate image. *Journal of Business Research*, 64(11), 1207-1211.

Laroche, M., Bergeron, J., Barbaro-Forleo, G. (2001) Targeting consumers who are willing to pay more for environmentally friendly products. *Journal of Consumer Marketing*, 18(6), 503-520.

Lee, J., Lee, J., Feick, L. (2001) The impact of switching costs on the customer satisfaction-loyalty link: mobile phone service in France. *Journal of Services Marketing*, 15(1), 35-48.

Lee, J.S., Hsu, L.T., Han, H., Kim, Y. (2010) Understanding how consumers view green hotels: How a hotel's green image can influence behavioural intentions. *Journal of Sustainable Tourism*, 18(7), 901-914.

Lii, Y.S., Wu, K.W., Ding, M.C. (2013) Doing good does good? Sustainable marketing of CSR and consumer evaluations. *Corporate Social Responsibility and Environmental Management*, 20(1), 15-28.

Liou, J., Chuang, M.L. (2009) Evaluating corporate image and reputation using fuzzy MCDM approach in airline market. *Quality & Quantity*, 44(6), 1079-1091.

Lynes, J., Dredge, D. (2006) Going green: Motivations for environmental commitment in the airline industry. A case study of Scandinavian Airlines. *Journal of Sustainable Tourism*, 14(2), 116-138.

MacCallum, R.C., Browne, M.W., Sugawara, H.M. (1996) Power analysis and determination of sample size for covariance structure modeling. *Psychological Method*, 1(2), 130-149.

Marrewijk, M. (2003) Concepts and definitions of CSR and corporate sustainability: between agency and communion. *Journal of Business Ethics*, 44(2/3), 95-105.

Martin, D., Schouten, J. (2012) Sustainable Marketing, New Jersey: Pearson.

Mayer, R., Ryley, T., Gillingwater, D. (2012) Passenger perceptions of the green image associated with airlines. *Journal of Transport Geography*, 22(5), 179-186.

McWilliams, A., Siegel, D. (2001) Corporate social responsibility: A theory of the firm perspective, *Academy of Management Review*, 26(1), 117-127.

Minton, E., Lee, C., Orth, U., Kim, C., Kahle, L. (2012) Sustainable marketing and social media a cross-country analysis of motives for sustainable behaviors. *Journal of Advertising*, 41(4), 69-84.

Mitchell, R., Wooliscroft, B., Higham, J. (2010) Sustainable market orientation: A new approach to managing marketing strategy. *Journal of Macromarketing*, 30(2), 160-170.

Miyoshi, C., Mason, K. (2009) The carbon emissions of selected airlines and aircraft

types in three geographic markets. *Journal of Air Transport Management*, 15(3), 138-147.

Mohr, L., Webb, D. (2005) The effects of corporate social responsibility and price on consumer responses. *Journal of Consumer Affairs*, 39(1), 121-147.

Nadiri, H. Hussain, K. Ekiz, E., Erdoğan, Ş. (2008) An investigation on the factors influencing passengers' loyalty in the North Cyprus national airline. *The TQM Journal*, 20(3), 265-280.

Nan, X., Heo, K. (2007) Consumer response to corporate social responsibility (CSR) initiatives. *Journal of Advertising*, 36(2), 63-74.

Nguyen, N., LeBlanc, G. (2001) Corporate image and corporate reputation in customer's retention decision in services. *Journal of Retailing and Consumer Services*, 8(4), 227-236.

Ostrowski, P., O'Brien, T., Gordon, G. (1993) Service quality and customer loyalty in the commercial airline industry. *Journal of Travel Research*, 32(2), 16-24.

Ottman, J. (2011) *The New Rules of Green Marketing*, Sheffield: Greenleaf Publishing.

Paladino, A., Baggiere, J. (2008) Are we 'green'? An empirical investigation of Renewable electricity consumption. In Borghini, S., McGrath, M.A, Duluth, C.O. (eds.), *E-European Advances in Consumer Research*, Volume 8, MN: Association for Consumer Research, Pages: 340-341.

Park, J.W., Robertson, R., Wu, C.L. (2006) The effects of individual dimensions of airline service quality: Findings from Australian domestic air passengers. *Journal of Hospitality and Tourism Management*, 13(2), 161-176.

Peattie, K. (1992) *Green Marketing*, London: Pitman.

Peattie, K. (1995) Environmental marketing management: Meeting the green challenge. *Business Strategy and the Environment*, 7(1), 52-53.

Peattie, K. (2001) Towards sustainability: The third age of green marketing. *The Marketing Review*, 2(2), 129-146.

Polonsky, M.J., Speed, R. (2001) Linking sponsorship and cause related marketing: Complementary and conflicts. *European Journal of Marketing*, 35(11/12), 1361-1389.

Porter, M., Kramer, M. (2006) Strategy & society: The link between competitive advantage and corporate social responsibility. *Harvard Business Review*, 84, 78-92.

Rodriguez, M., Ricart, J., Sanchez, P. (2002) Sustainable development and the sustainability of competitive advantage: A dynamic and sustainable view of the firm, *Creativity and Innovation Management*, 11(3), 135-146.

Saha, M., Darnton, G. (2005) Green companies or green con-panies: Are companies really green, or are they pretending to be, *Business and Society Review*, 110(2), 117-157.

Seetharaman, A., Nadzir, Z., Gunalan, S. (2001) A conceptual study on brand valuation, *Journal of Product and Brand Management*, 10(4/5), 243-256.

Sen, S., Bhattacharya, C. (2001) Does doing good always lead to doing better? Consumer reactions to corporate social responsibility. *Journal of Marketing Research*, 38(2), 225-243.

Seretny, M., Seretny, A. (2012) Sustainable marketing-A new era in the responsible marketing development. *Foundations of Management*, 4(2), 63-76.

Sirdeshmukh, D., Singh, J., Sabol, B. (2002) Consumer trust, value, and loyalty in relational exchanges. *Journal of Marketing*, 66(1), 15-37.

Smallbone, T. (2004) Can 'market transformation' lead to 'sustainable business'? A critical appraisal of the UK's strategy for sustainable business. *Business Strategy and the Environment*, 13(2), 96-106.

Smith, V., Langford, P. (2009) Evaluating the impact of corporate social responsibility programs on consumers. *Journal of Management & Organization*, 15(1), 97-109.

Su, Y.H., Wei, H.D. (2011) A study on relationship among green marketing, consumer satisfaction, consumer loyalty and the degree of consumer involvement in environmental protection: to take examples from the convenience stores chain in the middle section of Taiwan. *Marketing Review*, 8(2) 159-174。 (In Chinese)

Suki, N.M., Suki, N.M. (2015) Mediating role of social responsibility on the relationship between consumer awareness of green marketing and purchase intentions. *International Journal of Social, Behavioral, Educational, Economic, Business and Industrial Engineering*, 9(8), 2996-2999.

Suki, N.M., Suki, N.M., Azman, N.S. (2016) Impacts of corporate social responsibility on the links between green marketing awareness and consumer purchase intentions. *Procedia Economics and Finance*, 37, 262-268

Thogersen, J. (2010) Country differences in sustainable consumption: The case of organic food. *Journal of Macromarketing*, 30(2), 171-185.

Van Dam, Y., Apeldoorn, P. (1996) Sustainable marketing. *Journal of Macromarketing*, 16(2), 45-56.

Vellas, F. (2001) Interdependence of tourism development and air transport in Europe. In World Tourism Organization (Ed.), *Tourism and Air Transport*, 37-53, Madrid: World Tourism Organization.

Welford, R., Frost, S. (2006) Corporate social responsibility in Asian supply chains. *Corporate Social Responsibility and Environmental Management*, 13(3), 166-176.

Whyte, R. (2002) Loyalty marketing and frequent flyer programs: Attitude and attributes of corporate travelers. *Journal of Vacation Marketing*, 9(1), 17-34.

Zikmund, W., McLeod, R., Gillbert, F. (2003) *Customer Relationship Management: Integrating Marketing Strategy and Information Technology*, Hoboken: Wiley.

Zins, A. (2001) Relative attitudes and commitment in customer loyalty models: some experiences in the commercial airline industry. *International Journal of Service Industry Management*, 12(3), 269-294.