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How can airlines' ESG activities be evaluated by consumers? Development of consumer-driven ESG measurement to validation

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Abstract: Despite the inclusion of environmental, social, and governance (ESG) initiatives seeming ubiquitous in today's corporate practices, there is still a lack of systematic research addressed on how the corporate's ESG activities affect consumers' overall perception. This study aims to determine whether perceived airline ESG practices affect consumers' behavioral intention and if brand image, attachment, and attitude mediate this relationship. Initially the ESG measurement of consumer perception was developed, specifically for the airline industry, and then an online survey was conducted of 567 South Korean consumers. Data was analyzed by using the partial least squares structural equation modeling. Our research findings provide novel insights from consumers' perspectives by analyzing multi-dimensional E, S, and G initiatives perceptions that differentiate influences on brand image, attachment, attitude, and consumers' behavioral intentions. This study emphasizes the importance of "governance" among ESG construct in increasing airline brand image, attachment, and consumer attitude that ultimately impact consumers' behavioral intention. This study provides abundant theoretical contributions and practical airline marketing strategies to lead to financial efficiency based on these findings.

Keywords: perceived airline ESG, brand image, brand attachment, brand attitude, behavioral intention

1. Introduction

ESG is a non-financial index of companies that represents their practices and performance of the environment, society, and governance (hereafter ESG). The United Nations (2006) has launched its set of Principles for Responsible Investment, which gives priority to ESG factors in investment practice. Meanwhile, the Sustainable Development Goals (SDGs) of the United Nations and the Paris Climate Change Agreement strengthened public awareness of the challenges of global sustainability (Ionescu et al., 2019). Larry Fink, chairman of BlackRock, a leading global investment and risk management solutions provider, mentioned ESG in a letter to the CEO in 2020. His request for disclosing ESG in a sustainable development plan as a new standard (BlackRock, 2020) alerted corporates about the significance of ESG. Today's consumers are more sensitive to corporate ESG responsibilities such as clean energy and fair labor practices when purchasing products and services for responsible consumption. Airlines can achieve financial sustainability, but environmental sustainability is a cost-effectiveness issue for businesses. Thus, sustainable actions related to the ESG of the airlines are becoming critical differentiators in brand marketing strategies for sustainability-conscious travelers (ESG and Global Aviation, 2021).

In the COVID-19 era, consumers who have experienced the collective impact of the epidemic continue to rank social issues and the response of corporations to become extremely important. Creating long-term strategies for a firm's sustainable image has become vital because consumers' concerns about ESG have grown in all business sectors. 60 percent of respondents noted that they would choose corporates that support social issues and align with their values, although product and service costs were higher (Sustainable brands, 2022). The airline sector produces 2.4% of a considerable amount of global carbon emissions in 2018 (EESI, 2022) and flying has been recognized as a kind of "flight shame" by environmentally sensitive consumers (Greta Thunberg being the most notable activist).

To meet airlines' public image and emerging ESG trends, airline companies have exerted tremendous efforts to improve ESG scores and promote airlines' ESG initiatives to the public

(Ionescu et al., 2019; Paraschi, 2022). However, it remains unclear if consumers' perceived E, S, and G initiatives influence consumers' responses to airlines as significant predictors. Besides, the consequences of consumers' perceived ESG on various variables in the airline sector are underestimated. To date, most research on ESG has focused on corporate ESG and financial outcomes and market value or the influence of ESG implementation indicators on investors' decisions (Abdi et al., 2022; Ionescu et al., 2019; Kuo et al., 2021; Li et al., 2021; Surroca et al., 2010). While most ESG-related studies have focused on financial performance and investor-center perspectives, this work offers one of the first investigations into consumer-center perspectives.

The airline industry is highly driven by consumer demand and also consumers are involved in a large part of the stakeholders. Moreover, recently consumers across all age groups become sensitive to environmental and social issues and ethical governance so airlines' ESG initiatives can have a sizeable impact on brand image, attachment, attitude, and consumer behavior (Afifah & Asnan, 2015; C. F. Chen & Tseng, 2010; Hagmann et al., 2015; Han et al., 2020; Koh et al., 2022). To the best of our knowledge, consumers' perceived ESG activities in the airline industry have not yet been established. To bridge this gap, this research builds a conceptual framework between consumers' perceived airline ESG initiatives and their responses to provide a deeper understanding of consumer reactions to the ESG activities of airlines. More specifically, this research has the following objectives: (1) to identify the role of consumer perception of airline E, S, and G activities, respectively, on brand image, attachment, attitude, and consumers' behavioral intention; (2) to verify the mediating effect of brand image, attachment, and attitude between perceived ESG and behavioral intention; and (3) to develop scales to measure perceived ESG from the consumer-center perspective that particularly fit the airline industry.

2. Theoretical background and hypotheses development

2.1. ESG of the airline industry

Before the widespread recognition of ESG concepts, it was commonly referred to as "responsible investment" or "corporate social responsibility" (CSR) (Li et al., 2021). From CSR to the three Ps of the triple bottom line (People, Prosperity, and Planet), there was no lasting economic, environmental, or socially sustainable value creation for corporates through CSR activities. The biggest stumbling block of CSR was the failure to integrate sustainability into the firm's core value creation to build a systemic and lasting impact. Conversely, the environmental, social, and governance constructs are fundamentally interconnected (World Economic Forum, 2021), meaning ESG can establish more sustainable impacts on corporations.

The synthesis of environmental and social performance and corporate governance based on CSR creates pillars of ESG (Ionescu et al., 2019). The environmental pillar assesses the impact of a corporation's performance that provide well-being for customers, meet ecological requirements, and will not harm the environment (Han, Al-Ansi, et al., 2020). The sub-factors of environmental performance include sensitivity to climate change (carbon emissions), natural resources (biodiversity and raw materials procurement), pollution and waste, and the environmental prospects of clean technology (MSCI, 2022). Airline environmental factors include carbon emission reduction and energy-efficient technologies such as sustainable fuels for aircraft. (Hagmann et al., 2015; Kuo et al., 2021; Li et al., 2021; Paraschi, 2022).

Social pillars are policies related to internal and external stakeholders. Social performance subfactors include human capital (labor management standards), product responsibility (safety and data security), and social opportunities for health and nutrition. (MSCI, 2022). Examples

of an airline's social factors are full compliance with human capital and social opportunities, such as flight crew duty time limitations and rest time requirements (Kuo et al., 2021; Li et al., 2021; Paraschi, 2022).

Governance components refer to ethical business management related to transparent management and compliance with laws and ethics (Moon et al., 2022). The governance pillar involves the execution of organizational governance values to ensure that evaluations are established for the shareholders' best benefit. The sub-dimensions of governance performance are corporate governance (board diversity) and corporate behavior (business ethics and tax transparency) (MSCI, 2022). Examples of airlines' governance factors include transparent communication with international aviation organizations and authorities, such as with the International Air Transport Association (IATA) and the International Civil Aviation Organization (ICAO) (Kuo et al., 2021; Li et al., 2021; Paraschi, 2022).

2.2. Perceived ESG on brand image, attachment, and attitude

The empirical studies on CSR-related airline practices were reviewed because CSR is similar to ESG, and there is relatively more research about CSR on brand image, attachment, attitude, and behavioral intention. Moreover, there is yet limited research on consumer-center ESG perception. Previous studies predominantly focused on a single dimension of CSR and have failed to address the impact of each subset of ESG. Thus, to examine the relationship between E, S, and G and brand components (image, attachment, and attitude), previous literature on corporate governance, environmental and social CSR initiatives on the brand components was reviewed.

2.2.1. Perceived ESG on brand image

The relationship between consumers' perceived CSR and brand image is rigorously studied and identified CSR as a significant antecedent of brand image (Bianchi et al., 2019; Han et al., 2019; Han, Yu, et al., 2020; Ramesh et al., 2019). Brand image is a subjective memory of consumers' reactions to a certain brand. According to Han, Yu, et al.'s (2020) findings, perceived CSR significantly influences the brand image and reputation and increases brand trust, attitude, and behavioral intentions for the airline brand. Before the consumption of a service or product, positive brand images, reputation, word-of-mouth, and other sources can influence consumers' purchasing decisions (C. F. Chen & Tseng, 2010; Han et al., 2019; Han, Yu, et al., 2020; S. (Ally) Lee et al., 2017). Several studies have found that perceived CSR is related greatly to brand image, attitude, loyalty, and consumer purchase intention (Bianchi et al., 2019; He & Lai, 2014; Ramesh et al., 2019). In their widely acclaimed work, Han et al. (2019) discuss the perception of consumers' environmental CSR performance plays a meaningful role in developing an airline's brand image and increasing customer loyalty. Moreover, adhesion to social responsibility allows companies to establish good reputations and images (Wu & Wang, 2014). Scholars argue that virtuous corporate governance has a positive impact on the perception of stakeholders, brand image, and consumers' reactions (Moon et al., 2022; Rose & Thomsen, 2004). In contrast, governance fraud creates harmful consequences by destroying brand trust, reputation, and brand value (Moon et al., 2022). Therefore, airlines' environmental, social, and governance initiatives are essential for increasing corporate image (Koh et al., 2022). To test the impact of perceived ESG on brand image, the following hypotheses are postulated:

H1a. Perceived E is positively related to brand image.
H1b. Perceived S is positively related to brand image.

H1c. Perceived G is positively related to brand image.

2.2.2. Perceived ESG on brand attachment

Corporate pro-environmental practice research on brand attachment is relatively rare and seems to be overlooked compared to brand image and attitude. Brand attachment is the strength of the bond connecting the consumer with the brand (Park et al., 2010), and it consists of consumer affection for, connection with, and passion related to the brand (Thomson et al., 2005). Wang & Yoon's (2021) study results contribute to our understanding of brand attachment can be strengthened by CSR, which ultimately affects consumer behavior. People can establish and maintain emotional attachments with the brands they purchase. According to Bhattacharya Sankar Sen (2004) and Gilal et al. (2020), consumers' perception of a company's CSR activities significantly increases the brand's attachment. Han, Al-Ansi, et al. (2020) has provided the most in-depth analysis to date of the impact of environmental CSR on service quality, brand attachment, and word-of-mouth. Their findings indicate that environmental CSR induces customers' affirmative evaluations of an airline and their attachment to the airline brand. Imperative consumer response to environmental and social CSR initiatives is the sense of attachment to companies they care about and it is called consumer-company identification. Such social identification and a positive consumer-company identification could elicit them to develop a sense of attachment or choose a certain company (Bhattacharya Sankar Sen, 2004). In turn, brand attachment is positively linked to brand attitude, loyalty, commitment, and consumer satisfaction (Thomson et al., 2005; Vahdat et al., 2020). To verify the relationship between perceived ESG and brand attachment, the following hypotheses are postulated:

H2a. Perceived E is positively related to brand attachment.
H2b. Perceived S is positively related to brand attachment.
H2c. Perceived G is positively related to brand attachment.

2.2.3. Perceived ESG on brand attitude

Perception of brands can be gradually established based on consumers' experiences and engagement. Brand attitude refers to the overall evaluation of a brand from a consumer's subjective perspective expressing favorable or unfavorable responses (Keller, 1993). Various studies have shown green-related practices, such as providing an eco-label and clean energy were linked to favorable consumer attitudes toward the brand (Olsen & Chandukala, 2014; Rios et al., 2006; Y. S. Chen et al., 2017; Y. Lee & Lin, 2022; Wang & Yoon, 2021). Bhattacharya Sankar Sen (2004) offers a comprehensive overview of how consumers have a favorable attitude toward companies that engage in CSR initiatives. The relationship between corporate ethical governance and social responsibility in the relationship between brands and customers is crucial to understanding brand attitudes (Ferrell et al., 2019). Besides, corporate ethics are associated with business codes, conduct standards, and compliance systems. Ferrell et al. (2019) compared attitudes toward both positive and negative conduct for corporate ethical governance and CSR activities. Their research result revealed that corporate ethical governance and CSR activities significantly influence attitudes toward brands. Puriwat & Tripopsakul (2022) investigated the effect of Digital ESG initiatives on customers' attitudes and brand equity. They found that perceived ESG was a significant determinant of brand attitude for younger populations. Together with those of other similar studies explained earlier provides strong evidence that environmental, social, and governance-related CSR activities may influence consumers' attitudes toward brands. The following hypotheses are tested to validate the theoretical assumptions addressing perceived ESG on brand attitude.

H 3a. Perceived E is positively related to brand attitude.
H 3b. Perceived S is positively related to brand attitude.
H 3c. Perceived G is positively related to brand attitude.

2.3. Mediating role of brand image, attachment, and attitude between perceived ESG and behavioral intention

Early studies on consumer perceptions of the airlines' environmental responsibility considered it to be an antecedent of brand love, emotional attachment, word-of-mouth, purchase intention, and loyalty (F. Y. Chen et al., 2012; Han et al., 2019, 2020; Paraschi, 2022). As airline companies have considerable environmental footprints, they are under tremendous pressure to reduce their environmental impacts and develop environmentally friendly energy, technologies, and management (F. Y. Chen et al., 2012; Hagmann et al., 2015; Kim et al., 2020). Behavioral intention is the likelihood of behavior and loyalty to specific brands, companies, products, or services (Han et al., 2019; Oliver, 2010). Airlines' CSR initiatives for the environment are undoubtedly essential to spark the loyalty intention of consumers. This is because consumers tend to purchase products and services from companies that care about the environment and society, which, in turn, are crucial to companies' success and long-term profits (F. Y. Chen et al., 2012; Kim et al., 2020).

Brand image affects consumers' brand knowledge and reflects their brand association. Green consumers develop strong brand attachments if they believe that the image of the green brand matches their self-value (Y. S. Chen et al., 2017). Previous research suggested that brand attachment is related to favorable attitudes and consumer behaviors (Park et al., 2010; Thomson et al., 2005; Vahdat et al., 2020). In the same vein, a positive attitude toward airlines can create positive behavioral intention, establishes customer loyalty, and reflects the willingness to buy or recommend airlines to others (Wu & Wang, 2014). The study by Ramesh et al. (2019) has shed more light on CSR activities that do not directly affect purchase intention, while brand attitude, image, and perceived quality mediate the relationship between CSR and purchase intention. Wang and Yoon (2021) claimed that the company's green practices positively influence consumers' behavioral intention and improve corporate image and brand attachment. Furthermore, their findings supported the impact of the brand attitude shaped by brand attachment to increase behavioral intention.

Therefore, we predict that perceived ESG indirectly impacts consumers' behavioral intention and is mediated via brand image, attachment, and attitude. Drawing from the discussion of perceived ESG on brand image, attachment, and attitude, it is anticipated that its consequences will be associated with consumer behavioral intention. The following hypotheses are posited to test the mediation effects of brand image, attachment, and attitude between perceived ESG and behavioral intention.

H4. Brand image is positively related to brand attachment.
H5. Brand attachment is positively related to brand attitude.
H6. Brand image is positively related to behavioral intention.
H7. Brand attachment is positively related to behavioral intention.
H8. Brand attitude is positively related to behavioral intention.
       Brand image, attachment, and attitude mediate the relationship between perceived ESG and behavioral intention.

Figure 1 presents the conceptual framework for the study.
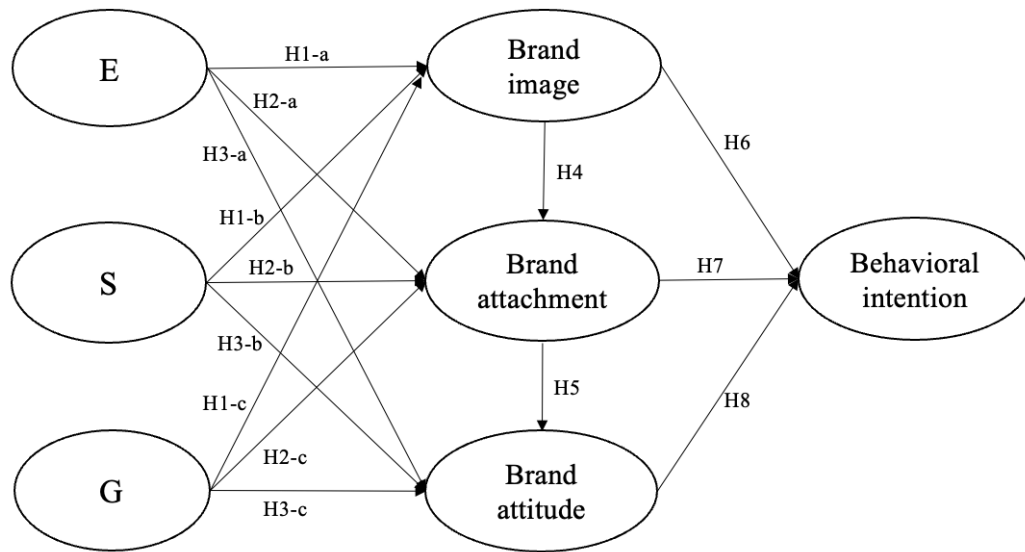
<Figure 1> Conceptual framework

3. Research methods

After the literature review, we gathered empirical evidence for the proposed conceptual model. There are two steps in the present research. Step 1 develops a perceived airline ESG management scale from a sample of Korean consumers, while Step 2 provides the measurement items for each variable, participants, and procedures from the data collection.

3.1. Step 1: Scale development

To develop a representative scale for the perceived ESG of airlines based on consumers' perspectives in the airline context, we followed the scale development procedures advocated by Churchill (1979). The scale development process is illustrated in Figure 2.
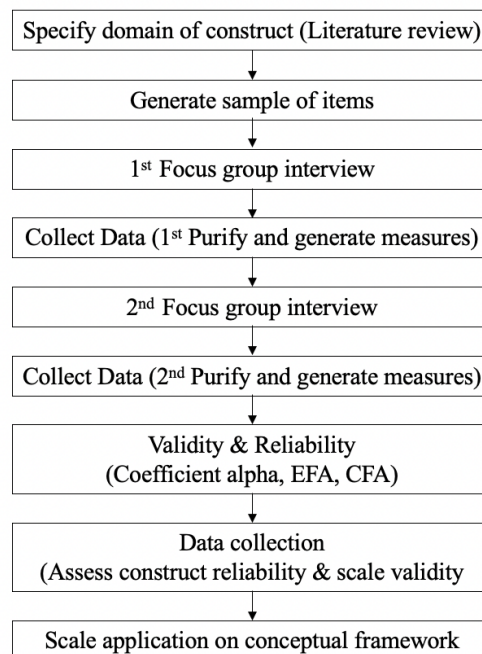
<Figure 2> Scale development process

We reviewed K-ESG (2021), the Global Reporting Initiative (GRI) (2022), the Sustainability Accounting Standards Board (SASB) (2020), and the Morgan Stanley (MSCI) ESG rating (2022) to identify a set of items designed to tap the construct of perceived ESG. Most duplicate items were generated from the aforementioned rating agencies. Table 1 presents common indicators among four different ESG rating agencies.

<Table 1> ESG Indicators of rating agencies.

Factor	Indicators	GRI	SASB	MSCI	K-ESG
E	Environmental management	O	O	O	O
	Natural resource management & use	O	O	O	O
	Environmental protection activities	O	O	O	O
	Regulatory compliance	O	O	O	O
S	Health & safety	O	O	O	O
	Community involvement	O	O	O	O
	Human rights	O	O	O	O
	Labor practices	O	O	O	O
G	Board structure, independence & accountability	O	O	O	O
	Ethics & codes of conduct		O	O	O
	ESG management practices & processes	O	O	O	O

Note. Reorganized by the researcher based on Korea Convergence Tourism Institute (2022)

3.1.1. Focus group interviews

A total of 17 items were derived, including five environmental items, six social items, and six governance items, through rigorous literature review and ESG rating sources from several agencies (MSCI, SASB, GRI, K-ESG), which the researchers modified and refined to fit this study. Subsequently, two consecutive focus group interviews were conducted by adopting the Delphi method and targeting academia and a group of experts with a high comprehension of the ESG of airlines (Crisp et al., 1997). Researchers explained the topic and rationale of the study to each participant and sent the survey via e-mail.

For the first focus group interview, we invited six professors from the tourism department, one researcher from the Korea Culture & Tourism Institute, one expert from the Korea Standards Association, and two senior experts from the hospitality field. The interviews were carried out between March 22 and March 29, 2022. Experts evaluated the measurement items by applying a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree) and collecting and reviewing the provided opinions and further suggestions.

The second round of the focus group surveys was conducted from April 4 to 11, 2022. A panel of ten experts with rich academic knowledge and practical experience in the tourism and aviation sectors reviewed the first purified 29 measurement items, including environmental (11 items), social (9 items), and governance (9 items), and evaluated measurement items using a 5-point Likert scale. The researchers aggregated responses and shared modified questionnaires with the group after each survey round. After completing the two rounds of focus group interviews, we derived 11 items for the airline's environmental factor, nine for the social factor, and nine for the governance factor, resulting in a total of 29 items.

3.1.2. Pilot test

A convenience sampling method was employed for the pilot test to examine reliability and validity. The pilot test was performed through an online survey on social media with the researcher's acquaintances who had traveled with airlines within one year to measure

consumers' perceived airline ESG management. Each factor was measured on a 7-point Likert scale. Data were collected from April 22 to 24, 2022, and 126 responses were retrieved.

The KMO value was 0.934 close to 1, and the Bartlett Sphericity Test (2=2514, df=253, p0.001) was statistically significant by exploratory factor analysis (EFA) using Jamovi 2.3.3.0. Next, we checked for commonalities and factor loadings. One environmental item (E_5), five social items (S_2,3,4,5,9), and two governance items (G_3,4) had factor loadings less than 0.5. After deleting these items, reliability analysis was performed by weighing the factor loadings on corresponding constructs. The factor loadings for all variables exceeded 0.70, which denotes reliability. Cronbach's α value was greater than 0.9 for all the ESG dimensions, and the factor loadings indicated that each item value was greater than 0.5, indicating high reliability(Cronbach, 1951). Consequently, the final airline ESG measurement items were adequately modified for the current research context and applied in the final data collection, with a total of 21 indicators comprising ten environmental, four social, and seven governance items.

Following CFA (confirmatory factor analysis), validity was confirmed with a composite reliability (CR) greater than 0.7 and an extracted average variance (AVE) greater than 0.5. The AVE square root value was greater than 0.7, thus satisfying discriminant validity(Fornell & Larcker, 1981). Therefore, the scale was verified for the final data collection.

3.2. Step 2: Measurements

3.2.1. Perceived airline ESG, brand image, attachment, attitude, and behavioral intention

All the measures used in this study were assessed using a 7-point Likert scale. ESG perception is described as a consumer's evaluation of how companies can achieve stakeholder expectations and social obligations through various environmental, social, and governance initiatives. Perceived airline E (environment) refers to the eco-conscious activities in which airlines operate programs to improve their environmental performance or accompany consumer participation. Environmental factors include ten items: environmental management (e.g., eco-friendly design, use of eco-friendly products); energy conservation (e.g., use of energy-efficient products, renewable energy, etc.); environmental protection activities (e.g., environmental protection campaigns); compliance with environmental laws and regulations. Perceived airline S (society) is defined as the social practices that the airline conducts for social value, promotion of consumer and employee welfare, and human rights protections. The social factor had four items: community involvement, human rights, labor practices, and personal data protection. We define perceived airline G (governance) as the involvement of various stakeholders in the policymaking process and transparent and law-abiding management of the organization. The governance factor comprised seven items: related to transparent management, business ethics, board of directors and auditing bodies, anti-corruption, and transparency in tax payments.

Brand image refers to consumers' perceptions of airline brand associations. Five items were constructed based on the functional, non-product-related, product-related, symbolic, and experiential components of Keller (1993). The operational definition of brand attachment is a psychological state of connection with an airline brand creating a positive long-term relationship between the consumer and a particular airline. The scale items for brand attachment comprised four items adopted from Thomson et al. (2005) to measure the feelings related to brand attachment (affection, desire, and connection). This research defines brand attitude as consumers' preference for airline brands. Based on Wu and Wang (2014), brand attitude was measured as preference, impression, pleasant, and favorable. We define behavioral intention as an airline consumer's intention due to which beliefs and attitudes can develop into actual purchasing willingness and loyalty to the airline. The measurement items were amended

to fit the purpose of this study and were composed of four items: positive word of mouth, recommendation, willingness to pay, and loyalty (Zeithaml et al., 1996).

3.2.2. Data collection

With the final measurement scales, data collection was conducted from May 23 to 27, 2022, through Macromill Embrain, a specialized marketing research company. A total of 567 valid data points were collected from consumers in their 20s to 60s who had traveled with airlines. Table 2 presents the demographic features of the 567 respondents. The gender composition was 49.2% male and 50.8% female. Regarding age groups, the sample was almost equally distributed to around 18–20% of each age group ranging from 20–29 years to over 60. Most participants had completed higher education: 55% had a bachelor's degree, and 9.9% had a graduate school degree. Most participants (74%) predominantly selected full-service carriers (FSC), such as Korean Air and Asiana, and 26% of the respondents preferred low-cost carriers (LCC). Of the respondents, 61.7% were married, and the rest were single (38.3%). Approximately 37.7% reported an annual income of USD 15,000–$30,000, followed by 26.3% reporting $30,000–$45,000. Further, $45,000–$60,000 and $15,000 or less were reported in 13.9% and 15.2% of cases, respectively. A total of 6.9% of the respondents had an annual income of over $60,000.

<Table 2> Sample characteristics

Item	Characteristics	Freq(N)	Ratio(%)	Item	Characteristics	Freq(N)	Ratio(%)
Gender	Male	279	49.2 %	Martial status	Single	217	38.3 %
	Female	288	50.8 %		Married	350	61.7 %
Education level	High school graduate	101	17.8 %	Airlines	Korean Air	274	48.3 %
	Junior/community college	98	17.3 %		Asiana Airline	138	24.3 %
	Bachelor	312	55.0 %		Jeju Air	43	7.6 %
	Graduate school	56	9.9 %		Tway	40	7.1 %
Annual income	less than $15,000	86	15.2 %		Air Seoul	2	0.4 %
	$15,000~30,000	214	37.7 %		Air Busan	18	3.2 %
	$30,000~45,000	149	26.3 %		Jin Air	44	7.8 %
	$45,000~60,000	79	13.9 %		Singapore Air	1	0.2 %
	above $60,000	39	6.9 %		Emirates	3	0.5 %
Age	20-29	107	18.9 %		Qatar	1	0.2 %
	30-39	107	18.9 %		KLM	1	0.2 %
	40-49	116	20.5 %		Other	2	0.4 %
	50-59	119	21.0 %	Carrier type	FSC	418	74 %
	over 60	118	20.8 %		LCC	147	26 %

4. Results

4.1. Measurement model.

EFA was conducted using Jamovi (version 2.3.3.0) to assess the reliability of the measurement model. Cronbach's α value was greater than 0.9, and the factor loadings of each item on their respective construct indicated greater than 0.5, thus demonstrating the high

reliability and internal consistency of the measurement model (Cronbach, 1951). Table 3 shows the outcomes of the measurement model.

To measure reliability and validity, CFA was performed with the structural equation modeling (SEM) method using SmartPLS 3.0. Cronbach's alpha coefficient found the cutoff value of 0.7 for all the constructs. The CR for all constructs was greater than 0.90, which is higher than 0.70, and the AVE values were also 0.70, on average, greater than the required value of 0.50, thereby confirming the measurement model's strong convergent validity (Hair et al., 2011). Table 4 displays the analysis results of the construct reliability and validity.

The square root values of AVE for all constructs were the utmost among the construct correlations. Thus, the discriminant validity for each construct was verified(Fornell & Larcker, 1981). Table 5 presents the results of construct correlations and discriminant validity.

<Table 3> Analysis result of the measurement model

| Items | factor | | | | Cronbach's α |
	1	2	3	uniqueness	
E1 X airline has a functional environmental management system (EMS), and it is externally certified	0.727			0.387	
E2 X airline discloses corporate environmental information	0.709			0.420	
E3 X airline considers the use of more environmental-friendly and safer raw materials, reduces water consumption, and improves energy efficiencies	0.743			0.350	
E4 X airline conducts a program its carbon zero	0.828			0.285	
E5 X airline complies with environmental laws and regulations	0.587			0.385	
E6 X airline follows procedures for the reduction of disposals, reuse, and recycling of waste	0.772			0.371	0.953
E7 X airline considers the use of more environmental-friendly products	0.847			0.244	
E8 X airline conducts an environmental campaign to encourage consumer participation	0.903			0.267	
E9 X airline strives to inform consumers of the importance of protecting the environment	0.890			0.278	
E10 X airline complies with greenhouse gas (GHG) monitoring and reporting requirements	0.866			0.252	
S1 X airline manages service quality and seeks customer satisfaction.		0.758		0.337	
S2 X airline has and adheres to policies that set out clear commitments and targets to improve data protection, privacy, and security		0.870		0.232	
S3 X airline complies with laws and regulations related to the personal information of customers and stakeholders.		0.889		0.183	0.914
S4 X airline has an appropriate process to handle social-related complaints and claims associated with customers		0.792		0.336	
G1 X airline uses accurate and transparent accounting methods and is the company's tax strategies and accounting standards consistent with the company's code of ethics/conduct and law observance			0.684	0.345	
G2 X airline transparently discloses corporate information (e.g., ESG/sustainability reports, ESG board operation performance, donations, and salaries).			0.664	0.307	
G3 X airline established an independent ESG committee/steering committee at the board level to monitor ESG performance			0.751	0.247	
G4 X airline protects the rights of various stakeholders (including shareholders, creditors, employees, consumers, business partners, etc.)			0.923	0.239	0.955
G5 X airline promotes the participation of various stakeholders (including shareholders, creditors, employees, consumers, business partners, etc.) in decision-making, and practices ESG management			0.963	0.172	
G6 X airline shall prevent external damage to employees outside of work due to abuse of power by the owner and executives and illegal gifting, etc.			0.904	0.171	
G7 X airline's CEO has a code of ethics and manages with fair and integrity			0.901	0.166	

Note. 'Maximum likelihood' extraction method was used in combination with a 'oblimin' rotation

<Table 4> Construct reliability and validity

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
ATTACHMENT	0.933	0.936	0.952	0.833
ATTITUDE	0.926	0.928	0.948	0.819
BEHAVIOR	0.895	0.903	0.928	0.764
IMAGE	0.843	0.846	0.905	0.761
E	0.953	0.953	0.959	0.703
G	0.956	0.957	0.964	0.793
S	0.915	0.916	0.940	0.796

<Table 5> Construct correlations and discriminant validity

	ATTACHMENT	ATTITUDE	BEHAVIOR	E	G	IMAGE	S
ATTACHMENT	**0.913**						
ATTITUDE	0.839	**0.905**					
BEHAVIOR	0.823	0.891	**0.874**				
E	0.611	0.598	0.609	**0.838**			
G	0.619	0.635	0.644	0.709	**0.891**		
IMAGE	0.721	0.808	0.810	0.542	0.561	**0.872**	
S	0.586	0.665	0.671	0.657	0.634	0.668	**0.892**

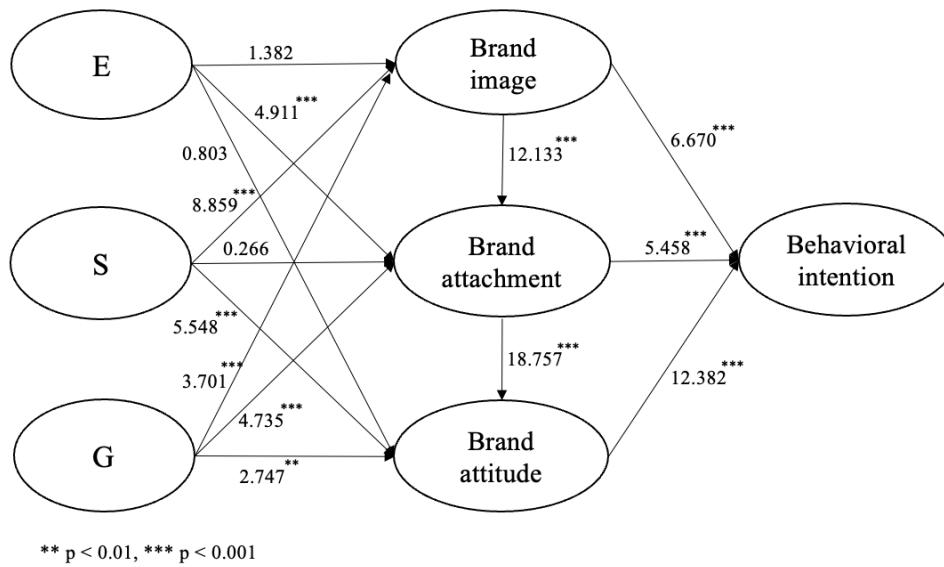Values in bold are the square roots of AVE

4.2. Structural model

PLS denotes a variance-based structural equation modeling technique (SEM) useful for estimating complex models, including high-order structures and direct and mediation relationships. The research model was evaluated using SmartPLS 3.0, a partial least squares (PLS) path modeling tool. PLS-SEM analysis is a two-step approach comprising constructs' reliability and validity of the measurement and structural models to evaluate relationships within the construct and examine propositions(Hair et al., 2011).

By bootstrapping the process with at least 5,000 bootstrap samples, the data samples reasonably demonstrate the imprecise population distribution and allow the estimation of coefficient weights between variables (Hair et al., 2011). Proposed hypotheses were analyzed on a single-tailed test that was suitable for the research hypotheses. The bootstrap confidence interval (CI) did not contain zero, indicating the significance of the path.

The test results show that the E dimension positively impacts brand attachment to the airline, supporting H2a. Conversely, E has no significance on brand image or attitude and does not support H1a or H3a. The S dimension is positively significant on brand image and attitude, supporting H1b and H3b. However, S has no significant impact on brand attachment and thus did not support H2b. Brand image, attachment, and attitude were affected by the G dimension, supporting H1c, H2c, and H3c.

Brand image positively influences brand attachment, thus supporting H4. Brand attachment is positively linked to brand attitude toward the airline, thus supporting H5. Similarly, brand image, attachment, and attitude's impacts on behavioral intention were found to be positively significant, supporting H6, H7, and H8, respectively.

Finally, the results indicate that brand image, attachment, and attitude partially mediate the relationship between the S and G dimensions and customers' behavioral intentions. The E dimension was mediated only by brand attachment in the relationship between behavioral intention. Figure 3 and Table 6 summarize the results of the hypotheses test, and Table 7 shows the results of the indirect effects.

** p < 0.01, *** p < 0.001

<Figure 3> Results of the hypotheses test

<Table 6> Results of the hypotheses test

Hypotheses	Direct path	Original Sample	t statistics	p values	LLCI	ULCI	Results
H1-1	E -> IMAGE	0.084	1.382	0.167	-0.033	0.206	Not supported
H2-1	E -> ATTACHMENT	0.203	4.911	0	0.128	0.286	Supported
H3-1	E -> ATTITUDE	-0.028	0.803	0.422	-0.095	0.043	Not supported
H1-2	S -> IMAGE	0.494	8.859	0	0.377	0.596	Supported
H2-2	S -> ATTACHMENT	-0.014	0.266	0.791	-0.118	0.083	Not supported
H3-2	S -> ATTITUDE	0.237	5.548	0	0.15	0.314	Supported
H1-3	G -> IMAGE	0.188	3.701	0	0.083	0.285	Supported
H2-3	G -> ATTACHMENT	0.198	4.735	0	0.117	0.28	Supported
H3-3	G -> ATTITUDE	0.098	2.747	0.006	0.032	0.165	Supported
H6	IMAGE -> BEHAVIOR	0.23	6.67	0	0.168	0.299	Supported
H4	IMAGE -> ATTACHMENT	0.509	12.133	0	0.439	0.595	Supported
H5	ATTACHMENT -> ATTITUDE	0.656	18.757	0	0.59	0.727	Supported
H7	ATTACHMENT -> BEHAVIOR	0.221	5.458	0	0.141	0.298	Supported
H8	ATTITUDE -> BEHAVIOR	0.519	12.382	0	0.427	0.588	Supported

Whether or not 0 is included in the confidence interval; LLCI=lower limit confidence interval; ULCI=upper limit confidence interval

<Table 7> Results of indirect effects

Indirect Path	Original Sample	t statistics	p values	LLCI	ULCI	Results
E -> IMAGE -> BEHAVIOR	0.019	1.327	0.185	-0.007	0.049	Not supported
E -> IMAGE -> ATTACHMENT	0.043	1.375	0.17	-0.019	0.102	Not supported
E -> ATTACHMENT -> ATTITUDE	0.133	4.92	0	0.084	0.187	Supported
E -> ATTACHMENT -> BEHAVIOR	0.045	3.693	0	0.025	0.072	Supported
E -> ATTITUDE -> BEHAVIOR	-0.015	0.8	0.424	-0.05	0.022	Not supported
E -> IMAGE -> ATTACHMENT -> ATTITUDE	0.028	1.362	0.174	-0.012	0.07	Not supported
E -> IMAGE -> ATTACHMENT -> BEHAVIOR	0.009	1.309	0.191	-0.002	0.026	Not supported
E -> IMAGE -> ATTACHMENT -> ATTITUDE -> BEHAVIOR	0.015	1.349	0.178	-0.004	0.039	Not supported
E -> ATTACHMENT -> ATTITUDE -> BEHAVIOR	0.069	4.544	0	0.039	0.099	Supported
S -> IMAGE -> BEHAVIOR	0.114	5.265	0	0.076	0.159	Supported
S -> IMAGE -> ATTACHMENT	0.251	6.959	0	0.182	0.326	Supported
S -> ATTACHMENT -> ATTITUDE	-0.009	0.266	0.79	-0.077	0.052	Not supported
S -> ATTACHMENT -> BEHAVIOR	-0.003	0.265	0.791	-0.027	0.019	Not supported
S -> ATTITUDE -> BEHAVIOR	0.123	4.948	0	0.077	0.175	Supported
S -> IMAGE -> ATTACHMENT -> ATTITUDE	0.165	6.499	0	0.12	0.217	Supported
S -> IMAGE -> ATTACHMENT -> ATTITUDE -> BEHAVIOR	0.086	5.456	0	0.06	0.118	Supported
S -> IMAGE -> ATTACHMENT -> BEHAVIOR	0.056	4.519	0	0.034	0.082	Supported
S -> ATTACHMENT -> ATTITUDE -> BEHAVIOR	-0.005	0.263	0.793	-0.041	0.028	Not supported
G -> IMAGE -> BEHAVIOR	0.043	3.184	0.002	0.022	0.075	Supported
G -> IMAGE -> ATTACHMENT	0.096	3.564	0	0.044	0.152	Supported
G -> ATTACHMENT -> ATTITUDE	0.13	4.653	0	0.076	0.185	Supported
G -> ATTACHMENT -> BEHAVIOR	0.044	3.195	0.001	0.021	0.073	Supported
G -> ATTITUDE -> BEHAVIOR	0.051	2.642	0.008	0.016	0.089	Supported
G -> IMAGE -> ATTACHMENT -> ATTITUDE	0.063	3.425	0.001	0.029	0.101	Supported
G -> IMAGE -> ATTACHMENT -> BEHAVIOR	0.021	3.124	0.002	0.01	0.036	Supported
G -> ATTACHMENT -> ATTITUDE -> BEHAVIOR	0.068	4.406	0	0.04	0.102	Supported
G -> IMAGE -> ATTACHMENT -> ATTITUDE -> BEHAVIOR	0.033	3.163	0.002	0.014	0.055	Supported
IMAGE -> ATTACHMENT -> ATTITUDE	0.334	9.067	0	0.269	0.41	Supported
IMAGE -> ATTACHMENT -> BEHAVIOR	0.113	5.162	0	0.072	0.158	Supported
ATTACHMENT -> ATTITUDE -> BEHAVIOR	0.341	10.158	0	0.277	0.404	Supported
IMAGE -> ATTACHMENT -> ATTITUDE -> BEHAVIOR	0.173	6.854	0	0.13	0.23	Supported

Whether or not 0 is included in the confidence interval; LLCI=lower limit confidence interval; ULCI=upper limit confidence interval

5. Discussion

The current research broadens the sustainable research area and especially contributes to the airline sector by developing a conceptual framework that sufficiently explicates customers' perceptions of the airline's ESG activities and how each subset of ESG is correlated with brand image, attachment, attitude, and behavioral intentions.

As discussed in the Results section, there was striking that the environmental dimension has a positive impact on attachment to airlines but no direct effect on brand image and attitude. There might be various reasons for these insignificant results. These results can be explained by Nyilasy et al.'s (2014) attribution theory that consumers may become skeptical when they observe companies engaging in ''greenwashing'' and not consistent with discrepant green advertising and actual corporate environmental performance. Consumers' greenwashing perception processes shift internally negative stimuli progressively and stand in the way of consumers' brand attitudes and behavioral intentions. The findings of this research are likely evidenced by the airline firm's unique circumstances in which it is difficult to persuade customers about their environmental efforts via their environmental policies and initiatives because of their considerable environmental carbon footprints. Taken together, these findings demonstrate the reason why perceived environmental activities did not directly impact brand image or attitude within the airline industry.

Airlines' perceived social dimension appears to be the most significant predictor that positively impacts brand image and consumer behavioral intention. Social activities, such as

personal data protection and protection of consumer rights, show strong evidence influencing the airline's brand image and attitude. On the other hand, no significant correlation was seen between social activities and brand attachment. The observed result could be interpreted as a single social dimension of ESG has a different impact from CSR on brand attachment.

The most salient difference between ESG and CSR was found that perceived governance is a critical dimension that promotes an airline's brand image, attachment, and attitude to arouse behavioral intention. Our results can be explained by corporate governance will continue to be a crucial area of focus for airline ESG practices. Our findings provide insights that airlines should weigh more on governance-related initiatives among ESG activities other than environmental or social factors of ESG to develop a brand attachment, improve airline image, and increase favorable attitudes toward airlines. This might be due to consumers' awareness of airline owners' power trips in Korea. Korean respondents have shown value in transparent and ethical management, the involvement of various stakeholders in the decision-making process, and the CEO's ethical leadership. Therefore, airlines should establish governance and make consumers aware of the status of corporate governance.

5.1. Theoretical contributions

This study extends the literature by answering Kang and Kim's (2022) call to scrutinize the impact of each subset of ESG on brand image, attachment, attitude, and consumer behavioral intention. This study contributes to sustainable research area by developing an ESG measurement based on consumers' perspectives in the airline context while most ESG-related literature focused on corporations' financial performance and market values from investors' perspectives (Abdi et al., 2022; Friede et al., 2015; Ionescu et al., 2019; S. Lee & Park, 2010). Moreover, this study empirically operationalizes the feasibility and applicability of consumers' perceived E, S, and G by analyzing each dimension's different impact levels on the proposed framework.

The results of this study underline the fundamental mechanism of consumers' airline ESG perceptions that led to the behavioral intention by mediating brand image, attachment, and attitude. These results are in line with those obtained by researchers that perceived ESG initiatives (or perceived CSR activities) plays a vital role in consumers' behavioral intention, including consumer loyalty (Bianchi et al., 2019; F. Y. Chen et al., 2012; Han et al., 2019; K. H. Lee & Shin, 2010; Ramesh et al., 2019). Further, this novel work has proved that environmental, social and governance endeavors influence differently build consumers' brand image, attachment, and attitude (Y. S. Chen et al., 2017; Hagmann et al., 2015; Koh et al., 2022; Y. Lee & Lin, 2022; Ramesh et al., 2019).

The results confirm that consumers' perceived environmental initiatives positively influence brand attachment which is in line with (Bhattacharya Sankar Sen, 2004; Gilal et al., 2020). In contrast to earlier findings of Han et al. (2019), Koh et al. (2022), Olsen & Chandukala (2014), Ramesh et al. (2019), Rios et al. (2006), Wang & Yoon (2021), our results indicate no significant correlation between the consumer's perceived environmental initiatives and the brand image or attitude, especially in the airline sector. The environmental endeavors of airlines are usually invisible to the average customer during service encounters, which could cause a low correlation (Hagmann et al., 2015). One reasonable explanation for these results is the lack of consumer awareness about corporate environmental contributions reported by Koh et al. (2022) and Wu & Wang (2014). This might be the key reason for the insignificant influence of airline environmental activities on brand image and attitude. Similar trends have been reported by Becken's (2007) work on the perception of international air travelers. The research conducted a focus group discussion about tourists' perceptions and attitudes toward air travel and global climate change that revealed many tourists had a low level of awareness

of the negative consequences of air travel on the ecosystem. Another reason might be consumers are becoming very skeptical of corporations because many firms publicize environmental practices but fail to demonstrate their actual performance (Nyilasy et al., 2014). These contradictory results may be due to differences in different industries' ESG perceptions of consumers.

Besides, our collected data are consistent with Wang & Yoon (2021) and Wu & Wang (2014) who claim that social activities can positively influence brand image and attitude. Contrary to what has been reported by Bhattacharya Sankar Sen (2004), our results indicate that corporate social practices are not positively related to brand attachment. Favorable brand attitudes have little centrality to consumers' lives, while strong brand attachments are generally regarded as deep and significant (H. He et al., 2016). These contradictory results may be the result of differences in consumer-company identification of airline consumers of Korea.

The most significant observation emerging from our data analysis of perceived airline ESG dimensions was the governance dimension. Similar conclusions were drawn by Han, Yu, et al. (2020), who uncovered ethical CSR as the most prominent factor of an airline's CSR initiatives. The perceived airline's governance factor directly and positively affects the airline's brand image, attachment, and attitude. Consequently, Strong evidence of the governance dimension was found that it significantly influences consumers' behavioral intention through the mediators, validating significant results in every path. Altogether, the "governance" dimension of ESG particularly stands out and is differentiated from CSR. The outstanding merits underpinning governance practices, such as ethical leadership, ensure maximum benefit to shareholders, including consumers' benefits and implementation of sustainability initiatives (Abdi et al., 2022). The organization's status could be seriously jeopardized by governance scandals (Moon et al., 2022). Despite its importance, the impact of governance on consumer research has not been sufficiently studied (Moon et al., 2022). These findings add substantially to our understanding of airlines' ESG initiatives focused on "governance" which could potentially pave the way to increasing favorable public image, brand attachment, and attitude, eventually impacting consumers' behavioral intentions.

5.2. Practical implications

The findings of this study have several meaningful implications for airline executives and ESG practitioners. Specifically, our results provide a significant first step toward a sustainable airline marketing strategy that ought to focus more on social and governance practices through more effective and vigorous tactics. The majority of national carriers in Korea do not include specific ESG plans for socially responsible management or reinforcement of governance in annual reports. Results confirm that social activities contribute the most critical influence on the improvement of brand image and attitude. Thus, airlines should prioritize promoting social initiatives such as charity, community funding programs, and welfare initiatives. Furthermore, governance is a fundamental key among ESG initiatives; such a system-based program requires an integrated management approach in which all leadership teams—including the board of directors—acquire ownership and forward thinking to make environmental and social activities possible (World Economic Forum, 2021). Airline practitioners thus need to comply with governmental/international laws and regulations and be socially responsible, minimizing the environmentally harmful impact of airline business to increase competitiveness in the airline marketplace (Han, Yu, et al., 2020).

Airlines implementing green and socially conscious activities have a high level of customer loyalty and amplified employees' commitment and performance (Afifah & Asnan, 2015; Bianchi et al., 2019; F. Y. Chen et al., 2012; Hagmann et al., 2015; Han et al., 2019, 2020; He & Lai, 2014; Kim et al., 2020; Koh et al., 2022; S. Lee et al., 2013; Moon et al., 2022; Wang

& Yoon, 2021). However, airlines are not able to improve their green image by reducing CO2 emissions or developing new eco-friendly aircraft but are sometimes perceived as greenwashing by consumers. Instead, marketing measures through effective communication channels can be adapted to improve their green image (Hagmann et al., 2015). For example, airlines can vigilantly scheme marketing strategies to increase perceptions and awareness of corporate environmental practices via diverse channels such as publicizing ESG reports, advertisements, corporate websites, and social media. To illustrate, marketers should specifically target MZ generations and millennials, who are relatively more prone to consume based on value, and XY generations, who are more environmentally conscious about their consumption (Sustainable brands, 2022).

BlackRock reported in the research that 81% of globally leading purpose-driven companies with superior ESG scores outperformed their competitors, despite a market recession in 2020 (World Economic Forum, 2021). During an unexpected crisis like the COVID-19 pandemic, airlines with superior ESG performance befit financially less risky because the instability of the airline brand equity becomes lower (Ionescu et al., 2019; S. Lee & Park, 2010; Paraschi, 2022). Airlines that achieve satisfactory ESG performance and comply with required regulations will have a favorable brand image among competitors within the industry. Thus, achieving and reporting high-ESG performance records can benefit airlines. Therefore, it would be prudent for airline executives to integrate ESG marketing strategies to keep high scores consistent with green advertising and promote sustainable corporate practices to increase consumers' perception of airline ESG initiatives.

Based on the findings of this study, ESG initiatives can help improve airline image and positively influence stakeholders' attachment and attitude, especially consumers, by designing a bespoke ESG strategy deeply embedded within maneuvers. While the customers expect airlines to engage in ESG activities, airlines must continue to weigh these concerns in their ESG marketing strategies to establish public relations activities such as employee relations, customer relationship management, general corporate advertising, and media exposure strategies that improve corporate reputation (S. Lee et al., 2013; S. Lee & Park, 2010; Rose & Thomsen, 2004). When it comes to ESG initiatives and their consequences on consumer behavior, there is no one-size-fits-all approach. Thus, conscious companies need to understand what the consumer is sensitive to is the first step to leverage ongoing research on consumer sentiment in the rapidly changing myriad of ESG issues. The alignment of corporate ESG initiatives with consumer concerns isn't just a business objective. Airlines should navigate unexplored areas of ESG perception as well as the changing consumers' sentiments in responding to consumers' reactions to ESG.

5.3. Limitations and directions for future research

As in many other studies, our study is not free of limitations. The present study is limited to the ESG perception of airline customers. These findings might not represent consumers' ESG perception in all tourism or hospitality industries. As each pillar of the E, S, G initiative has a different impact on brand and consumers' responses in the airline sector, future research should be validated by other industries if consumers' ESG perceptions result in different influences on the same variables. For example, future research can test the applicability of the proposed ESG measurement in the cruise, casino, and hotel industries and modify measurement items fit for other tourism and hospitality contexts. Therefore, they should be integrated into the organizational climate context and the characteristics of different industries as a comprehensive measure.

In addition, S (social) dimension among ESG remained only four measurement items, including human rights and data privacy protection, having completed explanatory factor

analysis. Social contributions and community support were omitted from the measurement items during the pilot test. Further research and closer inspection are needed to scrutinize the scales' applicability in different sectors to investigate if a small number of measurement items cause bias in the research findings.

Considering the limited scope of the population is constrained to South Korean consumers, further research is needed with different and cross-cultural demographic data to verify the applicability of the conceptual framework of this research. The Potential variables manipulating the bias of the research, such as social factors and organizational climate in Korea, were disregarded in this study. Future research should consider the potential effects of corporate culture and different demographic characteristics including gender, generation, and social and cultural backgrounds. In addition, perceived ESG initiatives in internal marketing can be examined to verify the impact of employees' ESG perception on their trust, commitment, and loyalty toward a company.

Reference

Afifah, N., & Asnan, A. (2015). The Impact of Corporate Social Responsibility, Service Experience and Intercultural Competence on Customer Company Identification, Customer Satisfaction and Customer Loyalty (Case Study: PDAM Tirta Khatulistiwa Pontianak West Kalimantan). *Procedia - Social and Behavioral Sciences*, *211*, 277–284. https://doi.org/10.1016/J.SBSPRO.2015.11.035

Becken, S. (2007). Tourists' perception of international air travel's impact on the global climate and potential climate change policies. *Journal of Sustainable Tourism*, *15*(4), 351–368. https://doi.org/10.2167/jost710.0

Bhattacharya Sankar Sen, C. (2004). *C a l i f o rn ia Doing Better at Doing Good: When,Why, and How Consumers Respond to Corporate Social Initiatives*.

Bianchi, E., Bruno, J. M., & Sarabia-Sanchez, F. J. (2019). The impact of perceived CSR on corporate reputation and purchase intention. *European Journal of Management and Business Economics*, *28*(3), 206–221. https://doi.org/10.1108/EJMBE-12-2017-0068

Chen, C. F., & Tseng, W. S. (2010). Exploring Customer-based Airline Brand Equity: Evidence from Taiwan. *Transportation Journal*, *49*(1), 24–34.

Chen, F. Y., Chang, Y. H., & Lin, Y. H. (2012). Customer perceptions of airline social responsibility and its effect on loyalty. *Journal of Air Transport Management*, *20*, 49–51. https://doi.org/10.1016/J.JAIRTRAMAN.2011.11.007

Chen, Y. S., Hung, S. T., Wang, T. Y., Huang, A. F., & Liao, Y. W. (2017). The influence of excessive product packaging on green brand attachment: The mediation roles of green brand attitude and green brand image. *Sustainability (Switzerland)*, *9*(4). https://doi.org/10.3390/su9040654

Churchill, G. A. (1979). Measure and Construct Validity Studies. *Journal of Marketing Research*, *16*(1), 64–73.

Crisp, J., Pelletier, D., Duffield, C., Adams, A., & Nagy, S. U. E. (1997). The delphi method? *Nursing Research*, *46*(2), 116–118.

Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika*, *16*(3), 297–334.

Ferrell, O. C., Harrison, D. E., Ferrell, L., & Hair, J. F. (2019). Business ethics, corporate social responsibility, and brand attitudes: An exploratory study. *Journal of Business Research*, *95*, 491–501. https://doi.org/10.1016/j.jbusres.2018.07.039

Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, *18*(1).

Gilal, F. G., Channa, N. A., Gilal, N. G., Gilal, R. G., Gong, Z., & Zhang, N. (2020). Corporate social responsibility and brand passion among consumers: Theory and evidence. *Corporate Social Responsibility and Environmental Management*, *27*(5), 2275–2285. https://doi.org/10.1002/csr.1963

Hagmann, C., Semeijn, J., & Vellenga, D. B. (2015). Exploring the green image of airlines: Passenger perceptions and airline choice. *Journal of Air Transport Management*, *43*, 37–45. https://doi.org/10.1016/j.jairtraman.2015.01.003

Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed a silver bullet. *Journal of Marketing Theory and Practice*, *19*(2), 139–152.

Han, H., Al-Ansi, A., Chi, X., Baek, H., & Lee, K. S. (2020). Impact of environmental CSR, service quality, emotional attachment, and price perception on word-of-mouth for full-service airlines. *Sustainability (Switzerland)*, *12*(10). https://doi.org/10.3390/SU12103974

Han, H., Yu, J., & Kim, W. (2019). Environmental corporate social responsibility and the strategy to boost the airline's image and customer loyalty intentions. *Journal of Travel and Tourism Marketing*, *36*(3), 371–383. https://doi.org/10.1080/10548408.2018.1557580

Han, H., Yu, J., Lee, K. S., & Baek, H. (2020). Impact of corporate social responsibilities on customer responses and brand choices. *Journal of Travel and Tourism Marketing*, *37*(3), 302–316. https://doi.org/10.1080/10548408.2020.1746731

He, H., Zhu, W., Gouran, D., & Kolo, O. (2016). Moral identity centrality and cause-related marketing: The moderating effects of brand social responsibility image and emotional brand attachment. *European Journal of Marketing*, *50*(1–2), 236–259. https://doi.org/10.1108/EJM-10-2014-0613

He, Y., & Lai, K. K. (2014a). The effect of corporate social responsibility on brand loyalty: The mediating role of brand image. *Total Quality Management and Business Excellence*, *25*(3–4), 249–263. https://doi.org/10.1080/14783363.2012.661138

He, Y., & Lai, K. K. (2014b). The effect of corporate social responsibility on brand loyalty: The mediating role of brand image. *Total Quality Management and Business Excellence*, *25*(3–4), 249–263. https://doi.org/10.1080/14783363.2012.661138

Ionescu, G. H., Firoiu, D., Pirvu, R., & Vilag, R. D. (2019). The impact of ESG factors on market value of companies from travel and tourism industry. *Technological and Economic Development of Economy*, *25*(5), 820–849. https://doi.org/10.3846/tede.2019.10294

Keller, K. L. (1993). Conceptualizing, Measuring, and Managing Customer-Based Brand Equity. *Journal of Marketing, 57(1), 1-22.*, *57*(1), 1–22.

Kim, Y., Lee, S. S., & Roh, T. (2020). Taking another look at airline CSR: How required CSR and desired CSR affect customer loyalty in the airline industry. *Sustainability (Switzerland)*, *12*(10). https://doi.org/10.3390/su12104281

Koh, H. K., Burnasheva, R., & Suh, Y. G. (2022). Perceived ESG (Environmental, Social, Governance) and Consumers' Responses: The Mediating Role of Brand Credibility, Brand Image, and Perceived Quality. *Sustainability (Switzerland)*, *14*(8). https://doi.org/10.3390/su14084515

Kuo, T. C., Chen, H. M., & Meng, H. M. (2021). Do corporate social responsibility practices improve financial performance? A case study of airline companies. *Journal of Cleaner Production*, *310*, 127380. https://doi.org/10.1016/J.JCLEPRO.2021.127380

Lee, K. H., & Shin, D. (2010). Consumers' responses to CSR activities: The linkage between increased awareness and purchase intention. *Public Relations Review*, *36*(2), 193–195. https://doi.org/10.1016/j.pubrev.2009.10.014

Lee, S. (Ally), Oh, H., & Hsu, C. H. C. (2017). Country-of-operation and brand images: evidence from the Chinese hotel industry. *International Journal of Contemporary Hospitality Management*, *29*(7), 1814–1833. https://doi.org/10.1108/IJCHM-11-2014-0577

Lee, S., & Park, S. Y. (2010). Financial impacts of socially responsible activities on airline companies. *Journal of Hospitality and Tourism Research*, *34*(2), 185–203. https://doi.org/10.1177/1096348009349822

Lee, S., Seo, K., & Sharma, A. (2013). Corporate social responsibility and firm performance in the airline industry: The moderating role of oil prices. *Tourism Management*, *38*, 20–30. https://doi.org/10.1016/j.tourman.2013.02.002

Lee, Y., & Lin, C. A. (2022). The effects of a sustainable vs conventional apparel advertisement on consumer perception of CSR image and attitude toward the brand. *Corporate Communications*, *27*(2), 388–403. https://doi.org/10.1108/CCIJ-05-2021-0051

Li, T. T., Wang, K., Sueyoshi, T., & Wang, D. D. (2021). Esg: Research progress and future prospects. In *Sustainability (Switzerland)* (Vol. 13, Issue 21). MDPI. https://doi.org/10.3390/su132111663

Moon, J., Tang, R., & Lee, W. S. (2022). Antecedents and consequences of Starbucks' environmental, social and governance (ESG) implementation. *Journal of Quality Assurance in Hospitality and Tourism*. https://doi.org/10.1080/1528008X.2022.2070818

Nyilasy, G., Gangadharbatla, H., & Paladino, A. (2014). Perceived Greenwashing: The Interactive Effects of Green Advertising and Corporate Environmental Performance on Consumer Reactions. *Journal of Business Ethics*, *125*(4), 693–707. https://doi.org/10.1007/s10551-013-1944-3

Oliver, R. L. (2010). *Satisfaction: A behavioral perspective on the consumer (2nd ed.).* Routledge.

Olsen, M. C. , S. R. J., & Chandukala, S. R. (2014). Green claims and message frames: how green new products change brand attitude. *Journal of Marketing*, *78*(5), 119–137.

Paraschi, E. P. (2022a). *Journal of Business and Management Studies Why ESG Reporting is Particularly Important for the Airlines during the Covid-19 Pandemic.* https://doi.org/10.32996/jbms

Paraschi, E. P. (2022b). Why ESG Reporting is Particularly Important for the Airlines during the Covid-19 Pandemic. *Journal of Business and Management Studies* , *4*(3), 63–67. https://doi.org/10.32996/jbms

Park, C. W., Macinnis, D. J., Priester, J., Eisingerich, A. B., & Iacobucci, D. (2010). Brand Attachment and Brand Attitude Strength: Conceptual and Empirical Differentiation of Two Critical Brand Equity Drivers. *Journal of Marketing*, *74*, 1–17.

Puriwat, W., & Tripopsakul, S. (2022). From ESG to DESG: The Impact of DESG (Digital Environmental, Social, and Governance) on Customer Attitudes and Brand Equity. *Sustainability (Switzerland)*, *14*(17). https://doi.org/10.3390/su141710480

Ramesh, K., Saha, R., Goswami, S., Sekar, & Dahiya, R. (2019). Consumer's response to CSR activities: Mediating role of brand image and brand attitude. *Corporate Social Responsibility and Environmental Management*, *26*(2), 377–387. https://doi.org/10.1002/csr.1689

Rios, F. J. M., Martinez, T. L., Moreno, F. F., & Soriano, P. C. (2006). Improving attitudes toward brands with environmental associations: an experimental approach. *Journal of Consumer Marketing*, *23*(1), 26–33.

Rose, C., & Thomsen, S. (2004). The impact of corporate reputation on performance: Some Danish evidence. *European Management Journal*, *22*(2), 201–210. https://doi.org/10.1016/j.emj.2004.01.012

Thomson, M., Macinnis, D. J., & Park, C. W. (2005). The Ties That Bind: Measuring the Strength of Consumers' Emotional Attachments to Brands. *Journal of Consumer Psychology*, *15*(1), 77–91.

Vahdat, A., Hafezniya, H., Jabarzadeh, Y., & Thaichon, P. (2020). Emotional Brand Attachment and Attitude toward Brand Extension. *Services Marketing Quarterly*, 236–255. https://doi.org/10.1080/15332969.2020.1786245

Wang, S.-R., & Yoon, T.-H. (2021). Examining the Impact of Coffee Shop Brand's Green Practices on Brand Attitude, Corporate Image, Brand Attachment and Behavioral Intentions. *Northeast Asia Tourism Research*, *17*(4), 231–251. https://doi.org/10.35173/natr.17.4.11

Wu, S.-I., & Wang, W.-H. (2014). Impact of CSR Perception on Brand Image, Brand Attitude and Buying Willingness: A Study of a Global Café. *International Journal of Marketing Studies*, *6*(6). https://doi.org/10.5539/ijms.v6n6p43

Zeithaml, V. A., Berry, L. L., & Parasuraman, A. (1996). The Behavioral Consequences of Service Quality. *Journal of Marketing*, *60*(2), 31–46.

BlackRock. 2020. Sustainability as BlackRock's New Standard for Investing. Retrieved from https://www.blackrock.com/us/ individual/blackrock-client-letter (accessed on 7 August 2022).

BlackRock. 2022. Larry Fink's 2022 letter to CEOs The Power of Capitalism. Retrieved from https://www.blackrock.com/corporate/investor-relations/larry-fink-ceo-letter (accessed on 11 August 2022)

Compact, U. G. 2004. Who cares wins: Connecting financial markets to a changing world. *New York*. ESG and Global Aviation. 2021. Retrieved from https://fticommunications.com/esg-and-global-aviation/ (accessed on 15 July 2022)

EESI. 2022. The Growth in Greenhouse Gas Emissions from Commercial Aviation (2019, revised 2022). Retrieved from https://www.eesi.org/papers/view/fact-sheet-the-growth-in-greenhouse-gas-emissions-from-commercial-aviation (accessed on 31 Dec 2022)

GRI. 2022. GRI guideline. Retrieved from https://www.globalreporting.org (accessed on 10 May 2022)

Jamovi project (2022). Jamovi (version 2.3.3.0). Retrieved from https://www.jamovi.org/ (accessed on 23 May 2022)

Korea Convergence Tourism Institute. 2022. ESG application plan in the tourism sector. Retrieved from http://kconti.re.kr/33/?idx=9334269&bmode=view (accessed on 3 May 2022)

Korea Corporate Governance Service. 2018. ESG Ratings. Retrieved from http://www.cgs.or.kr/eng/business/esg_tab01.jsp (accessed on 2 May 2022)

Ministry of Trade, Industry, and Energy. 2021. K-ESG guideline. Retrieved from http://www.motie.go.kr/motie/gov3.0/gov_openinfo/sajun/bbs/bbsView.do?bbs_seq_n=631&bbs_cd_n=30 (accessed on 2 June 2022)

MSCI. 2022. Why is ESG Growth Accelerating? Retrieved from https://www.msci.com/zh/esg-101-what-is-esg (accessed on 18 August 2022)

MSCI. 2022. What do we measure? Retrieved from https://www.msci.com/zh/esg-ratings (accessed on 18 May 2022)

MSCI. 2022. MSCI ESG Ratings Methodology. Retrieved from

SASB Standards. 2020. ESG Integration Insights 2020-edition. Retrieved from https://www.sasb.org/knowledge-hub/esg-integration-insights-2020-edition/ (accessed on 2 May 2022)

Sustainable brands. 2022. Great Expectations: Evaluating ESG Initiatives to Reach Target Consumers. Retrieved from https://sustainablebrands.com/read/marketing-and-

comms/great-expectations-evaluating-esg-initiatives-to-reach-target-consumers (accessed
on 1 Jan 2023)

The United Nations, 2006. How Did the PRI Start? Retrieved from. www.unpri.org/about-the-
pri

World Economic Forum. 2021. 3 paradigm shifts in corporate sustainability mark new era of
ESG. Retrieved from https://www.weforum.org/agenda/2021/09/3-paradigm-shifts-in-
corporate-sustainability-to-esg/ (accessed on 8 August)

Appendix 1. Measurements of brand image, brand attachment, brand attitude, and behavioral intention

Construct	Measures
Brand image	This airline has unique aspects of the brand
	I consider this airline is more competitive than other airlines
	This airline is congruent with my expectation
	This airline attracts me more with the primary brand association
	This airline is more memorable
Brand attachment	I am affectionate towards this airline
	I feel attached to this airline
	I am captivated by this airline
	I feel bonded with this airline.
Brand attitude	I have a good impression on this airline as a whole
	I prefer this airline than other airlines
	This airline can provide me the feeling of enjoyment
	I believe the airline style is very suitable to mine.
Behavioral intention	I have intention to revisit this airline
	I say positive things about this airline
	I have intention to recommend this airline to other people
	I have intention to pay price premium for this airline

Note. Refer to Table 3 for ESG measurements