

The Effect of Service Encounters at Airports on Visitors' Behavior within the Scope of Social and Environmental Sustainability

Furkan Karaman^{1*} , Özlem Atalık² 

^{1*}University of Turkish Aeronautical Association, Department of Business Administration, 06790, Etimesgut, Ankara, Türkiye. (furkaankaraman@gmail.com)

²Eskisehir Technical University, Aviation Management Department, Eskisehir, Türkiye. (oatalik@eskisehir.edu.tr)

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Corresponding Author: *Furkan Karaman*

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Abstract

The aviation industry, and more specifically airport management and airport marketing, has continuously evolved and progressed from the past to the present. Contrary to what happened in the past, the importance of airport marketing, which has been kept in the background until today, has started to be better understood by managers every day. The fact that resources are scarce and needs are unlimited has made concepts such as sustainability and green marketing become the focal point. For this purpose, a hybrid scale was developed by utilizing scales that were used in different studies at different times, consisting of factors that are closely related to social, environmental sustainability and green marketing concepts such as green image, green trust, green customer satisfaction and green word-of-mouth communication. Within the scope of the research, the data collected from the participants with the questionnaire method were analyzed and interpreted with the relevant factors. A 5-point Likert-type scale was used in the questionnaire. The surveys were conducted face-to-face. As a result of the analyses performed with this hybrid model, it was determined that the model fit values remained within the required values. Since different levels of factor loadings were obtained as a result of the analyzes, the explanation of the relationships between the factors was realized at different levels. A Structural Equation Model was created in the light of the data collected within the scope of the study. The results obtained through this model contribute to the examination and interpretation of the effects of service encounters at airports on the behavior of passengers or visitors within the scope of social and environmental sustainability. At the same time, by focusing on which factors should be at the forefront of airport management and airport green marketing activities, it is very important to eliminate the deficiencies, to reveal the aspects that need to be developed, to question the validity of the rules that apply in basic marketing activities in this application and to determine whether the mentioned factors are valid in practice.

1. Introduction

Today, the aviation sector is one of the leading sectors where intense competition is experienced globally. In the aviation sector, which is a service-oriented sector, competition and interaction within the sector are at a very high level (International Air Transport Association, 2020). Understanding the relationships between aviation businesses in a global competitive environment and analyzing the effects of environmental awareness on consumers is a very important issue to ensure the sustainability of businesses and the environment.

In its simplest form, sustainability is the balancing of economic expectations on the axis of environmental and social sensitivity. Since the 1970s, the aviation industry has played a leading role in sustainability. Reducing the noise levels of aircraft engines, reducing fuel use in airline transportation, and the steps taken towards e-transformation in order to minimize paper waste explain the situation (Torum and Küçük Yılmaz, 2009).

As an indispensable part of the rapidly developing aviation sector, airports play an important role in the economic and social development of the region in which they are located. On the other hand, in parallel with the growth of the sector, the environmental pollution impacts of the airport also increase. The fact that environmental pollution causes not only regional but also long-term global environmental impacts has brought the activities within the airport under control (Turkish Standards Institute, 2024).

In addition to all these, customers interact with business employees, the business environment and during the preparation of the product offered during the service process. In this process, customers want to be informed about all the activities that take place from the beginning of the production possibilities until the finalization of the service (Kurnaz & Özdoğan, 2017).

When the literature on this subject is examined, it is determined that a wide variety of studies have been conducted. Mohd Suki (2017) aimed to investigate the structural links of product quality, corporate image, store image and price on customer satisfaction and loyalty towards green product use in

Malaysia. Baumeister et al. (2022) aimed to examine the relationships between environmental responsibility, customer satisfaction and customer loyalty in an environmentally conscious airline. In another research, Wang et al. (2018) aimed to identify the impact of greenwashing on green image and consumers' word-of-mouth marketing intention and how this effect is mediated by green satisfaction and green trust. In another study, Ha (2022) investigated whether consumers' green justification affects green brand equity and if so, how effective it is by integrating the mediating role of green brand image, green satisfaction and green trust through the moderating role of green concern using legitimacy and signaling theories.

In addition, Hashish et al. (2022) empirically investigated the link between green perceived quality, green satisfaction, green trust and customers' green behavioral intentions in a sample of five-star eco-friendly hotels. In addition to all these studies, Çavuşoğlu et al. (2020) conducted a study to determine the effect of attitude towards green behavior on green image, green customer satisfaction and green customer loyalty. Although there are many studies in the literature, there is no other study that examines the relationship between green image, green customer satisfaction, green trust and green word-of-mouth communication within the scope of social and environmental sustainability in the aviation sector. This situation reveals the main purpose of the research.

One of the concepts that is closely related to the sustainability efforts of businesses in the aviation sector in Turkey is the "Green Organization Certificate". It is a type of certificate issued by the Directorate General of Civil Aviation (DGCA) to the organizations operating at airports in order to systematically reduce and, if possible, eliminate the damages they cause or may cause to the environment and human health.

In order to obtain the "Green Enterprise Certificate", aviation enterprises operating in Turkey must establish, implement, document and maintain an Environmental Management System in accordance with the current version of the TS EN ISO 14001 standard and the sectoral criteria determined by Directorate General of Civil Aviation (DGCA) and TSE, and complete the TS EN ISO 14001 "Environmental Management System Certification" process performed by TSE; create a Greenhouse Gas Inventory Report for each calendar year in accordance with the current version of TS EN ISO 14064-1 standard and greenhouse gas criteria and complete the verification of the Greenhouse Gas Inventory Report by Turkish Standards Institute in accordance with TS EN ISO 14064-3 standard. "Green Organization Certificate" is given by Directorate General of Civil Aviation to the enterprises that meet the specified requirements (Directorate General of Civil Aviation, 2024).

2. Materials and Methods

The survey method, one of the quantitative research techniques used in social sciences, was used in the study. The research provides the interpretation and examination of the relationships between visitors, service encounters and values by quantifying and scientificizing them.

The data required for the study were obtained from questionnaires (İslamoğlu & Alnaçık, 2016), which are systematic questionnaires prepared to collect information from primary sources. The questionnaire was constructed with a 5-point Likert-type scale. The answers to the questions in the questionnaire are organized as "Strongly Disagree", "Disagree", "Neutral", "Agree" and "Strongly Disagree".

The questionnaire forms were filled in face-to-face by the senior managers of the businesses operating at the airport and the people visiting the airport.

Frequently used SPSS/AMOS programs were used in the analysis of the study. The data obtained through questionnaires and secondary data collection methods were first transferred to the Microsoft Excel program and coded, and then the results were analyzed and evaluations were made by entering data into the matrices obtained through the relevant programs and programming languages.

The sampling frame of the research was determined as people who have been as visitors or passengers one or more times in 51 airports that have green organization certificates in different processes as of the date of the study. The aforementioned airports have a green organization certificate and are in an important position hosting passengers or visitors on both national and international flights with various studies and projects on sustainability. Accordingly, it is considered that the sample size and frame are at the most appropriate level for the study.

The data collected as a result of the process were analyzed by creating structural equation modeling through IBM SPSS 25, AMOS.

The questionnaire prepared for the model created within the scope of the study consists of seven main factors and 18 sub-expressions, namely "Green Image", "Green Trust", "Green Customer Satisfaction" and "Green Word-of-Mouth Communication" in parallel with the model. Reliability analysis was conducted with SPSS 25 program. The results of the reliability analysis are given in Table 1.

Table 1. Reliability Analysis Results

Cronbach Alpha (α)	Standardized α Value	Number of Expression
.936	.937	18

The Cronbach Alpha coefficient of the scale, which consists of 4 statements in total, namely "Green Image", "Green Trust", "Green Customer Satisfaction" and "Green Word-of-Mouth Communication", was determined as $\alpha=.937$. In the existing literature, the scale is considered reliable when the Cronbach's Alpha coefficient is 0.70 or above (Hair, Anderson, Babin, & Black, 2010).

Table 2 shows the Cronbach Alpha values after item removal. When the item was removed, some of the alpha values decreased by ,001, some by ,002, some by ,003, and some did not show any increase or decrease. Accordingly, item removal was not deemed necessary.

The results in Table 2 were obtained when the scale was analyzed collectively with all factors. As a result of the reliability analysis, it was concluded that the Cronbach Alpha values of the factors in the model were acceptable values. Accordingly, since the Alpha value of the scale is $\alpha=.937$ and $\alpha>0.70$, the scale is accepted as reliable (Hair, Anderson, Babin, & Black, 2010).

Structural equation modeling was used in the study and the model created as a result of the analysis is given in Figure 1. Structural equation modeling is a statistical analysis method used to understand the relationships between variables. In the given model, the relationships between the measured variables (latent variables) and the observed variables that make up these variables are specified. The variables used in the model are divided into two groups: measured variables and observed variables.

Table 2. Alpha values of the scale after item removal

Statement	Cronbach's Alpha if Item Deleted
GI1	.933
GI2	.932
GI3	.932
GI4	.933
GI5	.932
GTR1	.933
GTR2	.934
GTR3	.932
GTR4	.935
GTR5	.934
GCS1	.935
GCS2	.932
GCS3	.931
GCS4	.932
GWOM1	.934
GWOM2	.931
GWOM3	.931
GWOM4	.932

The measured variables are green image (GI), green trust (GTR), green customer satisfaction (GCS) and green word of mouth (GWOM).

The observed variables are GI1, GI2, GI3, GI4, GI5 in green image; GTR1, GTR2, GTR3, GTR4, GTR5 in green trust; GCS1, GCS2, GCS3, GCS4 in green customer satisfaction; GWOM1, GWOM2, GWOM3, GWOM4 in green word of mouth.

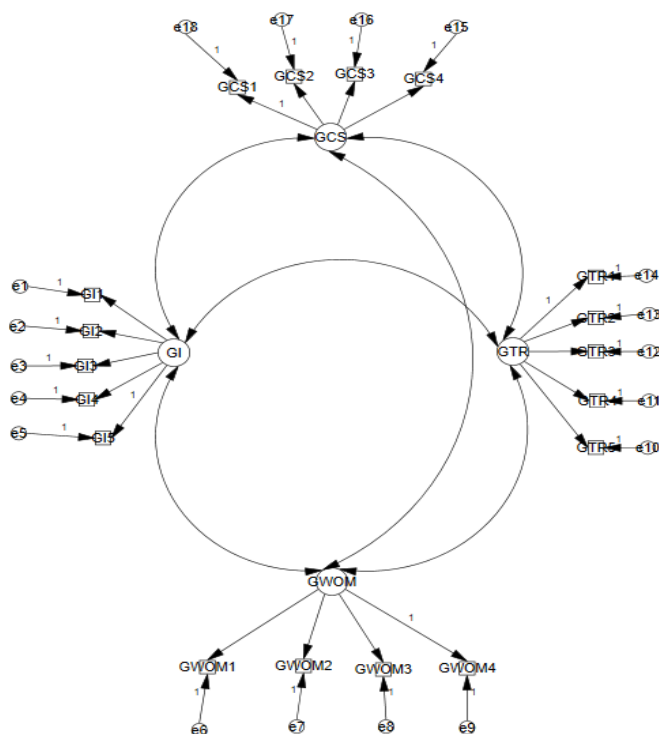


Figure 1. Structural Equation Model Created within the Scope of the Study

As given in Figure 13, the data collected within the scope of the research were analyzed with the Structural Equation Model. The model created for the study consists of a total of 4 measured variables and 18 observed variables, namely green image (GI), green trust (GTR), green customer satisfaction (GCS) and green word-of-mouth (GWOM). The hypotheses for the model are as follows:

H₁: There is a positive and significant relationship between green image of airports and green word-of-mouth activities of visitors.

H₂: There is a positive and significant relationship between visitors' green trust in airports and visitors' green word-of-mouth activities.

H₃: There is a positive and significant relationship between visitors' green customer satisfaction and visitors' green word-of-mouth activities.

H₄: There is a positive and significant relationship between green image of airports and green trust in airports by visitors.

H₅: There is a positive and significant relationship between green trust in airports by visitors and green customer satisfaction of visitors.

H₆: There is a positive and significant relationship between green image of airports and green customer satisfaction of visitors.

Explanatory factor analysis and confirmatory factor analysis were conducted by using SPSS 25 and AMOS 23 programs to determine whether the scale created in the study was appropriate and to conduct validity analysis. Factor analysis is a statistical method used to describe the variability between observed, related variables in terms of a smaller number of unobserved variables called factors (Johnson and Wichern, 2007).

Factor analysis is a mathematical technique that reduces a set of interrelated variables into a smaller number of dimensions or factors, each of which explains a significant portion of the variance in the observed variables (Gorsuch, 1983).

KMO and Bartlett's Test collectively provide important information about the suitability of the data set for factor analysis. Researchers use these tests to ensure that the variables selected for analysis are appropriate and that the data adequately represent the underlying structure (Meyer & Olkin, 1979).

In the study, firstly, exploratory factor analysis and then confirmatory factor analysis were conducted. In this direction, the factors explaining the maximum variance between the relevant variables were calculated separately. The KMO (Kaiser - Meyer - Olkin) and Bartlett's test values show to what extent the factor analysis is appropriate. In cases where this ratio is between 0.5 and 1, the appropriateness of the analysis is accepted, but it is generally considered by researchers that the research will be more acceptable when this ratio is above 0.7 (Altunışık et al., 2005: 132).

In the model created for the study, the content validity of the model was tested before testing the hypotheses between 7 measured variables, namely green image (GI), green trust (GTR), green customer satisfaction (GCS) and green word of mouth (GWOM). KMO and Bartlett test results are as follows.

Table 3. KMO and Bartlett Test Results

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.921
Bartlett's Test of Sphericity Approx.	5596.757
Chi-Square	
df	153
Sig.	.000

In this direction, explanatory factor analysis was applied to the data obtained in the first stage. The suitability of the data for factor analysis was tested with KMO and Bartlett's test. The values obtained (KMO .937 and Bartlett's test $\chi^2 = 11544.531$, $p < .000$) showed that the data set was compatible with factor analysis. The relevant results are given in Table 11.

In factor analysis, the data obtained from KMO and Bartlett's test, i.e. the Kaiser-Meyer-Olkin Measure of Sampling Adequacy, is considered good if it is between 0.5 - 0.7, very good if it is between 0.7 - 0.8 and excellent if it is greater than 0.9. According to the data obtained from KMO and Bartlett's test, the Kaiser-Meyer-Olkin Measure of Sampling Adequacy was found to be .921. It can be said that this value can be accepted as an excellent value in line with the information given above.

As a result of the analysis, the measurement model, which aims to interpret the effects of visitors' and passengers' service encounters within the scope of social and environmental sustainability and the resulting effects on their behaviors and to reveal the relationships in detail, is compiled under 7 factors explaining 67.916% of the total variance. The total variance explained is given in Table 4.

Table 4. Total Variance Explained

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings ^a
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	8.732	48.511	48.511	8.269	45.941	45.941	6.214
2	2.155	11.971	60.481	1.785	9.918	55.859	5.394
3	1.433	7.961	68.442	1.192	6.624	62.483	6.349
4	1.099	6.103	74.546	.978	5.433	67.916	6.012
5	.608	3.377	77.922				
6	.506	2.814	80.736				
7	.486	2.700	83.436				
8	.413	2.295	85.730				
9	.403	2.236	87.967				
10	.348	1.935	89.902				
11	.326	1.812	91.714				
12	.300	1.669	93.383				
13	.283	1.570	94.953				
14	.247	1.372	96.325				
15	.218	1.210	97.535				
16	.172	.958	98.493				
17	.156	.865	99.358				
18	.116	.642	100.000				

Extraction Method: Maximum Likelihood.

a. When factors are correlated, sums of squared loadings cannot be added to obtain a total variance.

In order to complete the information given in the total variance explained table and to better understand the model fit, the model matrix is given in Table 6. There should not be any nested dimensions in the table. This is undesirable. Each phenomenon should be separated within itself. When Table 6 is examined, it is observed that none of the dimensions are nested and therefore the expected result is achieved.

The data related to the model were collected under 7 factors explaining 67.916% of the total variance. The reliability level of all dimensions in the Explanatory Factor Analysis measurement model is .937. The results of the Exploratory Factor Analysis (EFA) showed that the measurement model

was compatible with the purpose of the study. After this stage, a Confirmatory Factor Analysis (CFA) was applied to the dataset to test and confirm what was indicated by the Exploratory Factor Analysis.

Confirmatory Factor Analysis (CFA) is a statistical technique used to assess the extent to which observed variables measure underlying latent constructs, as hypothesized in a predefined theoretical model. It helps researchers assess the goodness of fit between the observed data and the proposed factor structure (Hair et al., 2018).

Confirmatory Factor Analysis (CFA) is a statistical method used in psychometrics and social sciences to assess the validity of a theoretical model that assumes relationships between

observed variables and latent constructs. It is a subset of structural equation modeling (SEM) that focuses specifically on testing the factor structure of a set of observed variables (Byrne, 2016).

Table 6. Model Matrix

	Factor			
	1	2	3	4
GWOM3	.964			
GWOM4	.920			
GWOM2	.811			
GWOM1	.610			
GTR4		.860		
GTR5		.817		
GTR3		.789		
GTR2		.772		
GTR1		.697		
GI3			.873	
GI2			.818	
GI5			.739	
GI4			.736	
GI1			.695	
GCS3				-.916
GCS2				-.792
GCS4				-.766
GCS1				-.397

Extraction Method: Maximum Likelihood.
 Rotation Method: Oblimin with Kaiser Normalization.a
 a. Rotation converged in 9 iterations.

Within the scope of the study, an assessment was made for the factors explaining this situation by using the model created to measure the impact of service encounters at airports on visitors' behaviors within the scope of social and environmental sustainability. In this direction, the model created within the scope of the research was used. Confirmatory factor analysis was conducted after the exploratory factor analysis. Accordingly, hypothesis tests were carried out with confirmatory factor analysis. The hypotheses in question are as follows:

H₁: There is a positive and significant relationship between green image of airports and green word-of-mouth activities of visitors.

H₂: There is a positive and significant relationship between visitors' green trust in airports and visitors' green word-of-mouth activities.

H₃: There is a positive and significant relationship between visitors' green customer satisfaction and visitors' green word-of-mouth activities.

H₄: There is a positive and significant relationship between green image of airports and green trust in airports by visitors.

H₅: There is a positive and significant relationship between green trust in airports by visitors and green customer satisfaction of visitors.

H₆: There is a positive and significant relationship between green image of airports and green customer satisfaction of visitors.

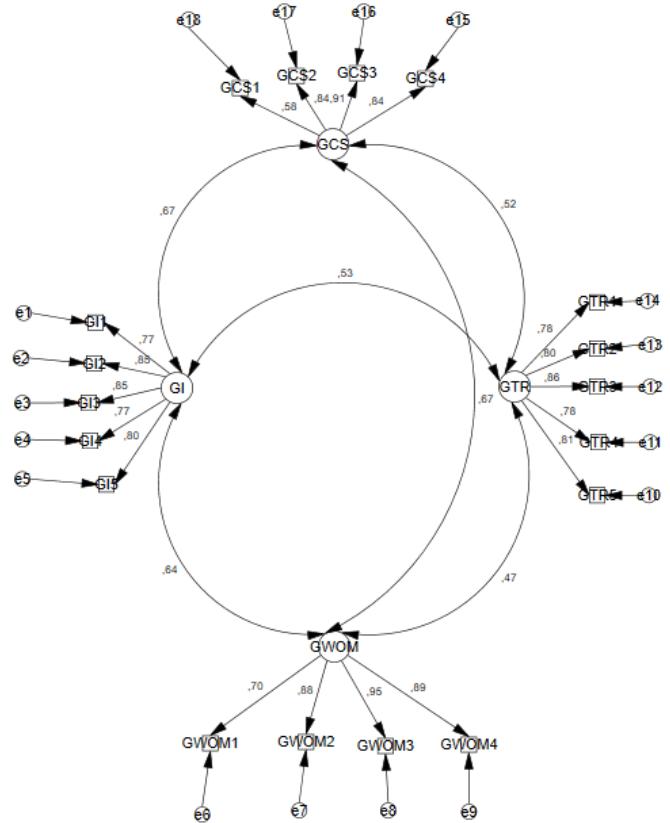


Figure 2. Confirmatory Factor Analysis

The model in Figure 2 shows the path coefficients. It was observed that the values obtained as a result of the analysis were generally above 0.50 and loaded at a high level (Cohen, 1988). In addition, the standardized regression coefficients are given in Table 7.

Table 7. Standardized Regression Coefficients

		Estimate
GCS1	<--- GCS	.576
GCS2	<--- GCS	.840
GCS3	<--- GCS	.915
GCS4	<--- GCS	.839
GWOM4	<--- GWOM	.893
GWOM3	<--- GWOM	.948
GWOM2	<--- GWOM	.877
GWOM1	<--- GWOM	.704
GTR1	<--- GTR	.782
GTR2	<--- GTR	.801
GTR3	<--- GTR	.862
GTR4	<--- GTR	.784
GTR5	<--- GTR	.805
GI5	<--- GI	.801
GI4	<--- GI	.773
GI3	<--- GI	.853
GI2	<--- GI	.850
GI1	<--- GI	.768

Table 8 shows the regression weights and significance levels of the statements. When the table is examined, it is seen

that the relationships of the observed variables in the model with the factor they belong to (sub latent variables) are statistically significant since $p < 0.001$.

Table 8. Regression Weights and Significance Levels

			Estimate	S.E.	C.R.	P
GCS1	<---	GCS	1.000			
GCS2	<---	GCS	1.392	.112	12.477	***
GCS3	<---	GCS	1.506	.116	13.006	***
GCS4	<---	GCS	1.327	.106	12.471	***
GWOM 4	<---	GWO M	1.000			
GWOM 3	<---	GWO M	1.075	.035	30.995	***
GWOM 2	<---	GWO M	.976	.037	26.222	***
GWOM 1	<---	GWO M	.869	.050	17.521	***
GTR1	<---	GTR	1.000			
GTR2	<---	GTR	1.055	.060	17.463	***
GTR3	<---	GTR	1.143	.060	19.062	***
GTR4	<---	GTR	1.040	.061	17.003	***
GTR5	<---	GTR	1.110	.063	17.566	***
GI5	<---	GI	1.000			
GI4	<---	GI	1.021	.059	17.314	***
GI3	<---	GI	1.012	.051	19.701	***
GI2	<---	GI	1.045	.053	19.623	***
GI1	<---	GI	1.013	.059	17.164	***

The statements were statistically significant and the model fit values were found to be at the desired level. Data on model fit are given in Tables 9, 10, 11 and 12. Although there are many values indicating model fit, it is seen that the values generally reported in the literature are CMIN, CMIN/DF, GFI, IFI and RMSEA, while some studies report RMR, NFI and AGFI values (Meydan & Şeşen, 2015).

Table 9. CMIN and CMIN/DF

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	42	364.322	129	.000	2.824

Table 9 shows the CMIN and CMIN/DF fit values, good fit values should be $CMIN/DF \leq 3$. At the same time, since the resulting value $CMIN/DF = 2.824$, it can be said that there is good agreement.

Table 10. CMIN and CMIN/DF

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.936	.924	.958	.950	.958
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

In Table 10, since $CFI = 0.958$ and the minimum acceptable fit values are $\geq 0.94-0.90$, model fit is achieved. Since $IFI = 0.958$ and the minimum acceptable values should be in the range of $\geq 0.94-0.90$ and these values were found to be in this range, good fit was observed.

Table 11. CMIN and CMIN/DF

Model	RMR	GFI	AGFI	PGFI
Default model	.047	.916	.889	.691
Saturated model	.000	1.000		
Independence model	.462	.210	.117	.187

In Table 11, since $GFI = 0.916$ and acceptable fit values should be between $\geq 0.89-0.85$, it was seen that the model fit was realized. Since $AGFI = 0.889$ and acceptable fit values are between $\geq 0.89-0.85$, it was concluded that model fit was achieved.

Table 12. RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.066	.058	.074	.001
Independence model	.295	.288	.301	.000

In Table 12, $RMSEA = 0.66$ and since the acceptable fit value should be between $\leq 0.06-0.08$, it was determined that the value obtained from the model was within the fit limits. In the confirmatory factor analysis of the model, IFI, TLI, RMR, GFI, AGFI and RMSEA values are within the acceptable fit limits. Accordingly, it is seen that the model is compatible. Below, all hypotheses of the study are tested respectively.

According to the model, since the level of the correlation relationship between GI and GWOM is $r = 0.64$ and $r \geq 0.50$ means a high level positive relationship, there is a high level positive relationship (Cohen, 1988). The covariance relationship between GI and GWOM is significant since $p \leq 0.001$.

The hypothesis "H₁: There is a positive and significant relationship between the green image of airports and visitors' green word-of-mouth communication activities." is confirmed and accepted.

According to the model, since the level of the correlation relationship between GTR and GWOM is $r = 0.47$, which means a moderate positive relationship, there is a moderate positive relationship (Cohen, 1988). The covariance relationship between GTR and GWOM is significant as $p \leq 0.001$.

The hypothesis "H₂: There is a positive and significant relationship between green trust in airports by visitors and green word-of-mouth communication activities of visitors." is confirmed and accepted.

According to the model, the level of the correlation relationship between the GCS and the GWOM is $r = 0.67$ and since $r \geq 0.50$ means a high level positive relationship, there is a high level positive relationship (Cohen, 1988). The covariance relationship between GCS and GWOM is significant since $p \leq 0.001$.

The hypothesis "H₃: There is a positive and significant relationship between visitors' green customer satisfaction and visitors' green word-of-mouth communication activities." is confirmed and accepted.

According to the model, the level of the correlation relationship between GI and GTR is $r = 0.53$, and since $r \geq 0.50$ means a high level positive relationship, there is a high level positive relationship (Cohen, 1988). The covariance relationship between GI and GTR is significant as $p \leq 0.001$.

The hypothesis "H₄: There is a positive and significant relationship between green image of airports and green trust in airports by visitors." is confirmed and accepted.

According to the model, the level of the correlation relationship between GTR and GCS is $r=0.52$ and since $r \geq 0.50$ means a high level positive relationship, there is a high level positive relationship (Cohen, 1988). The covariance relationship between GTR and GCS is significant since $p \leq 0.001$.

The hypothesis "H₅: There is a positive and significant relationship between green trust in airports by visitors and visitors' green customer satisfaction." is confirmed and accepted.

According to the model, the level of the correlation relationship between GI and GCS is $r=0.67$, and since $r \geq 0.50$ means a high level positive relationship, there is a high level positive relationship (Cohen, 1988). The covariance relationship between GTR and GCS is significant since $p \leq 0.001$.

The hypothesis "H₆: There is a positive and significant relationship between the green image of airports and visitors' green customer satisfaction." is confirmed and accepted.

3. Result and Discussion

Since the fit values for the model created for the study and the path coefficients in the model for the path analysis performed were significant, the model worked harmoniously. Accordingly, all research questions were answered one by one and all hypotheses were confirmed.

The lower latent variables explained the upper latent variables in a healthy way and "The Impact of Service Encounters at Airports on Visitors' Behaviors within the Scope of Social and Environmental Sustainability", which is the focus of the research, was explained with different factor loadings. The dimension differences in the results obtained and the level of relationship between the factors in these results can be interpreted in different ways.

It was observed that the values obtained as a result of the path analysis were generally above 0.50 and loaded at a high level. In addition to this, standardized regression coefficients, regression weights, model fit tables, significance level tables of the relationships between each statement and factor, correlation values between factors, standardized regression coefficients and regression weights and significance level tables show whether the model is meaningful or not and at the same time the model's fit with the study subject. In the model created, it was observed that each statement affected the factors in different value ranges. After the confirmatory factor analysis, different r values were determined between the variables. If these values are greater than or equal to 0.50, the effect size value is at a high level. If between 0.30 and 0.50, the effect size value is at a medium level, and if less than 0.30, the effect size value is at a low level.

The path coefficients in Figure 2 show the relationships between the model, factors and statements in detail. Here, the relationships are as follows: a high level relationship between green image and green word-of-mouth ($r=0.64$), a medium level relationship between green trust and green word-of-mouth ($r=0.47$), a high level relationship between green customer satisfaction and green word-of-mouth ($r=0.67$), a high level relationship between green image and green trust ($r=0.53$), a high level relationship between green trust and green customer satisfaction ($r=0.52$) and finally a high level relationship between green image and green customer satisfaction ($r=0.67$). Accordingly, the strongest relationships were firstly between green customer satisfaction and green

word-of-mouth and then between green image and green customer satisfaction. This is followed by the relationship between green image and green word-of-mouth, the relationship between green image and green trust, the relationship between green trust and green customer satisfaction, and the relationship between green trust and green word-of-mouth. The fact that there is a strong relationship between these factors is important in terms of illuminating the results of the study in the focus of these factors.

In addition, when the regression weights and the significance levels of the statements in Table 8 are examined, it is seen that the relationships of the observed variables in the model with the factor they belong to and the sub (latent) statements are statistically significant since $p < 0.001$. In addition, it was determined that the statements were statistically significant and the fit values of the model were at the desired level.

4. Conclusion

In this study, it was aimed to create a hybrid scale by combining the concepts of sustainability and green marketing with many scales developed from the literature and different disciplines. These scales were developed or used by Hwang and Lyu (2019), Martinez (2015), Chang and Fong (2010) and Wang et al. (2018) and were used to create a hybrid scale for this study. The cultural adaptation and comprehensibility of these scales were ensured through cross-translation. These scales developed for different sectors were adapted to be based on airports, which are indispensable in the aviation sector. The purpose of this scale is to summarize all the relationships in the model, starting from the strongest relationship to the weakest relationship, on the basis of the relationship, how some practices that we call green or environmentalist in daily life within the scope of sustainability are perceived by visitors and passengers and what are the important factors here.

Participants from different professional groups from institutions and organizations working in the aviation sector or providing services in various fields of aviation were included in the application as visitors or passengers. In this context, the analysis of the collected data was carried out using quantitative research methods.

The study process started with the literature and conceptual framework section, followed by the determination of the model, development of the data collection tool, selection of the population and sample, analysis and findings, and the final conclusion and discussion, conclusion and recommendations.

It is seen that the model created within the scope of the study is used in different methods and disciplines. However, the scale used and the model created were adapted for the first time for the aviation industry within the scope of green marketing and sustainability.

Seven different scales used in the study were used within the scope of the research because they were compatible with the adapted scale and the sustainability and green marketing processes seen in the literature.

As previously discussed in the findings, it has been determined that the factors included in the model are suitable for service encounters within the scope of sustainability and green marketing and the factors used are included in the literature. This model consists of seven parts: environmental awareness, environmental sustainability, environmental value, green image, green trust, green customer satisfaction and green word of mouth communication. Other models used within the

scope of the created model have been used in many studies in the literature.

Different effects on behavior were measured in studies conducted by Hwang and Lyu (2019), Martinez (2015), Chang and Fong (2010) and Wang et al., (2018). In related studies, it is seen that companies' green marketing and sustainability practices, especially in the service sector, contain predictive factors in terms of behavior. It was concluded that high compatible chi-square values were obtained with the predicted structural model. Accordingly, it is seen that the fit values obtained in the research conducted with the model created remain within the appropriate range.

Reliability and honesty resulting from excellent products and services have a significant impact on consumers' behavioral intentions, which provides trust (Lankton et al., 2010). Studies on green marketing practices have confirmed the importance of green trust in influencing behavioral intentions, including word-of-mouth intention. For example, Kang and Hur (2012) proposed several variables to investigate the antecedents of green brand equity in the context of electronic products in South Korea. The results showed that green trust was positively related to consumer repurchase intention. Rahman et al. (2015) investigated consumers' reactions to hotels' green initiatives and showed that green trust positively affects consumers' revisit intention. Konuk et al. (2015) argued that increasing green trust can increase green consumer trust and green consumer word-of-mouth communication.

When the studies in the literature on sustainability and green marketing practices are evaluated, it can be said that the research results are parallel to the findings obtained in other studies. Quantitative studies advocate the need for a holistic approach regarding sustainability and green marketing practices. Although the findings obtained within the scope of the research lead to the conclusion that some factors contribute less than others, it can be said that the results are similar since the model appears to work harmoniously and a very high level of explanatory power is detected for most factors. Final evaluations, recommendations and limitations regarding the results are given in the next section.

The development and transformation of airports over the years affects every aspect of the aviation industry directly or indirectly, and also affects the structure of the sector accordingly. Since its birth, the aviation industry has continued to develop as one of the largest and most comprehensive industries in the world. As an element that connects countries, cultures and people, air transportation enables cultural interaction to occur mostly in a demographic sense. The global expansion and networking of airports, especially airline companies, causes them to be culturally influenced by the geography in which they are located. People's different perceptions of events are also reflected in their behavior. Therefore, sustainability and green marketing practices in aviation are vital elements for airports.

When the studies in the literature are examined, it is seen that the common point of the above-mentioned studies is the human element and behaviors. It was tried to determine to what extent the relevant factors in the study (green image, green trust, green customer satisfaction, green word of mouth communication) are effective in understanding the behavior of visitors and passengers in airport management.

The values obtained in the study results contributed to the conclusion of the research. The relevant results aim to enable airport managers to better perceive passengers and visitors and manage processes better.

All results obtained, whether positive or negative, must be conveyed to the necessary authorities at the management level. The effect of each factor included in the study is reflected in the overall results at different rates. It is thought that taking these results into consideration will bring about development in management and related processes.

Providing the necessary training and awareness to airport personnel and managers will be effective in achieving positive results. With the advancement of technology day by day, the innovations emerging in the sector are diverse. In parallel with this diversity, the necessary training must be given to personnel and managers.

In addition, it is expected that employees' perception of the audits and inspections in these processes as a phase of improvement rather than seeing them as a burden will positively affect the results.

The findings obtained as a result of the analyzes carried out within the scope of the research were evaluated and the explanation levels of the factors were examined. Qualitative evaluation of the low-scoring answers given to the Likert-type scale was not possible because the survey was conducted anonymously. In this context, in future studies, an evaluation of the participants who responded negatively to the statements determined through focus group discussion and interview method can be examined within the scope of cause and effect relationship. By compiling the themes, common thoughts and most repeated words in the answers given by the participants in question, detailed results can be obtained and inferences can be made about the aspects where the model is lacking and its root causes.

The biggest limitation of the research is that the data cannot be disseminated to a wider sample due to reasons such as financial and time constraints during the study phase. For this reason, it was not possible to reach more people who could be included in the sample. Of the data collected entirely face-to-face, a certain number of participants could not be included in the study due to careless marking. Even though the data was collected physically, careless marking was observed, although very rarely. Therefore, these participants were not included in the data set. Another limitation is the sector, profession, age, gender, education level, etc. of the participants. This is because demographic elements such as are not evenly distributed in groups. For example, although the number of people in the 55-64 and 65 and over age groups is small compared to other people, it shows that the findings obtained are not biased and the factors do not have an effect on the prediction levels.

Conflicts of Interest

There is no conflict of interest regarding the publication of this paper.

References

- Altunışık, R., Coşkun, R., Bayraktaroglu, S. & Yıldırım, E. (2005). Sosyal Bilimlerde Araştırma Yöntemleri SPSS Uygulamalı. [Research methods in social sciences: SPSS applied.] Sakarya: Sakarya Bookstore.
- Baumeister, S., Nyrhinen, J., Kemppainen, T. & Wilska, T. (2022). Does airlines' eco-friendliness matter? Customer satisfaction towards an environmentally responsible airline. *Transport Policy* 128 (2022) 89–97.
- Byrne, B. M. (2016). *Structural Equation Modeling with AMOS: Basic Concepts, Applications, and Programming*. Routledge.

- Chang, N. and Fong, C. (2010). Green Product Quality, Green Corporate Image, Green Customer Satisfaction, and Green Customer Loyalty. *African Journal of Business Management*, 4, 2836-2844.
- Chen, Y. S., Lin, C. L., & Chang, C. H. (2014). The influence of greenwash on green word-of-mouth (green WOM): The mediation effects of green perceived quality and green satisfaction. *Quality & Quantity*, 48, 2411-2425.
- Cohen, J. (1988). *Statistical Power Analysis for the Behavioral Sciences*. New Jersey: Lawrence Erlbaum Associates.
- Çavusoglu, S., Demirag, B., Jusuf, E., & Gunardi, A. (2020). The effect of attitudes toward green behaviors on green image, green customer satisfaction and green customer loyalty. *Geo Journal of Tourism and Geosites*, 33, 1513-1519.
- Gorsuch, R. L. (1983). *Factor Analysis and Related Methods*. Psychology Press.
- Ha, M. T. (2022). Greenwash and green brand equity: The mediating role of green brand image, green satisfaction, and green trust, and the moderating role of green concern. *Plos One*, 17(11), e0277421.
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2018). *Multivariate Data Analysis*. Pearson.
- Hair, J., Anderson, R. E., Babin, B. J., & Black, W. C. (2010). *Multivariate Data Analysis: A Global Perspective*. London: Pearson.
- Hashish, M. E. S., Abdou, A. H., Mohamed, S. A. K., Elenain, A. S. A., & Salama, W. (2022). The Nexus between green perceived quality, green satisfaction, green trust, and customers' green behavioral intentions in eco-friendly hotels: a structural equation modeling approach. *International Journal of Environmental Research and Public Health*, 19(23), 16195.
- <https://web.shgm.gov.tr/tr/s/194-yesil-havaalani-green-airport-projesi>
- <https://www.tse.org.tr/IcerikDetay?ID=11&ParentID=1065>
- Hwang, J. and Lyu, S. O. (2020) Relationships among green image, consumer attitudes, desire, and customer citizenship behavior in the airline industry, *International Journal of Sustainable Transportation*, 14:6, 437-447.
- International Air Transport Association. (2020). *Annual Review 2020*. Montreal, Kanada: International Air Transport Association.
- İslamoğlu, A., & Alınçık, Ü. (2016). *Sosyal Bilimlerde Araştırma Yöntemleri*. [Research Methods in Social Sciences.] İstanbul: Beta Printing Publishing Distribution.
- Johnson, R. A., & Wichern, D. W. (2007). *Applied Multivariate Statistical Analysis* (6th ed.). Pearson.
- Kang, S., Hur, W. M., 2012. Investigating the antecedents of green brand equity: a sustainable development perspective. *Corporate Social Responsibility and Environmental Management*. 19(5), 306-316.
- Konuk, F. A., Rahman, S. U., Salo, J., 2015. Antecedents of green behavioral intentions: a cross-country study of Turkey, Finland and Pakistan. *International Journal of Consumer Studies*. 39(6), 586-596.
- Kurnaz, A., & Özdoğan, O. N. (2017). İstanbul'da Yer Alan Yeşil Restoran İşletmeleri Hizmet Kalitesinin Grserv Modeli İle Değerlendirilmesi. [The Evaluation of Service Quality of The Green Restaurants in İstanbul Using Grserv Model.] *Dokuz Eylül Üniversitesi İşletme Fakültesi Dergisi Dokuz Eylül University Journal of Faculty of Business (JFB)*, 18(1), 75-99.
- Lankton, N. K., Wilson, E. V., Mao, E., 2010. Antecedents and determinants of information technology habit. *Information and Management*. 47(5), 300-307.
- Martinez, P. (2015). Customer loyalty: Exploring its antecedents from a green marketing perspective. *International Journal of Contemporary Hospitality Management*, 27(5), 896-917.
- Meydan, C. H., & Şeşen, H. (2015). *Yapısal Eşitlik Modellemesi AMOS Uygulamaları*. [Structural Equation Modeling AMOS Applications.] Ankara: Detay Publishing.
- Meyer, R. D., & Olkin, I. (1979). Variance of sample correlation coefficient matrices. *Journal of Multivariate Analysis*, 9(1), 59-82.
- Mohd Suki, N. (2016). Green products usage: structural relationships on customer satisfaction and loyalty. *International Journal of Sustainable Development & World Ecology*, 24(1), 88-95.
- Rahman, I., Park, J., Chi, C. G. Q., 2015. Consequences of "greenwashing" Consumers' reactions to hotels' green initiatives. *International Journal of Contemporary Hospitality Management*. 27(6), 1054-1081.
- O. Torum & A. K. Yılmaz, *Havacılıkta Sürdürülebilirlik Yönetimi: Türkiye'deki Hava Limanları İçin Sürdürülebilirlik Uygulamaları Araştırması*. [The Sustainability Management in The Civil Aviation: A Sustainability Research to Airports in Turkey.], *JAST*, vol. 4, no. 2, pp. 47-58, Jul. 2009.
- Wang, J., Wang, S., Xue, H., Wang, Y., & Li, J. (2018). Green image and consumers' word-of-mouth intention in the green hotel industry: The moderating effect of Millennials. *Journal of cleaner production*, 181, 426-436.

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