THE EFFECTS OF AIRPORT DUTY-FREE SHOP SERVICESCAPE ON EMOTIONAL RESPONSE AND LOYALTY WITH AN EMPHASIS ON THE MODERATING EFFECT OF GENDER

Kyu-Seon Park
Incheon International Airport Corporation

Jin-Woo Park♣
Korea Aerospace University

ABSTRACT

This study analyzed the servicescape of an airport duty-free shop in terms of its effects on emotional response, service value, customer satisfaction, customer trust, and loyalty. For this purpose, a survey was conducted targeting the users of airport duty-free shops. The results revealed that among servicescape factors, functionality, attractiveness, and convenience had positive effects on emotional response. Emotional response turned out to have an effect on service value and customer satisfaction, and service value had a significant effect on customer satisfaction. In addition, customer satisfaction had a significant effect on customer trust and loyalty, while customer trust had a significant effect on customer loyalty. When an additional analysis was carried out using gender as a moderating variable, functionality, amenities, and cleanliness were shown to have positive effects on emotional response among men, and functionality and attractiveness had positive effects on emotional response among women.

Keywords: Servicescape; Emotional response; Customer loyalty; Duty-free shop

1. INTRODUCTION

These days, airports are exploring new methods of maximizing their revenue. Major airports worldwide are endeavoring to increase airplane and passenger numbers by either inviting additional airlines to use their facilities or encouraging airlines already using their facilities to expand their routes. Flight-related income can then be bolstered via landing charges and other facility-related fees. At the same time, airports are also adopting diverse strategies to maximize non-flight income. In particular, they are striving to increase duty-free shop sales since this income stream constitutes the largest portion of all non-flight income. Korean airports are also trying to make a high profit by strategically developing duty-free shops. Using these profits, Korean airports have been implementing a policy of lower airport charges compared to competing airports, thereby attracting new airlines and expanding new routes. However, due to the rapid growth of city-based and Internet duty-free shops, the market share held by airport duty-free shops is expected to be adversely affected. In preparation for this competition, efforts to increase airport duty-free shop sales seem more important than ever.

♣Corresponding author: Associate Professor, School of Business, Korea Aerospace University, 76 Hanggongdaehak-ro, Deokyang-gu, Gyeonggi-do 10540, Republic of Korea. Tel: +82 10 9483 1898 Email:jwpark@kau.ac.kr

As servicescape plays an important role in the shopping experience of customers, its importance with respect to stores such as duty-free shops is continually increasing (Kwon et al., 2015). Servicescape has a positive effect on the emotional response of airport users as well as on purchase intention and customer loyalty (Sherman et al., 1997). Although it has been revealed in many studies that servicescape is an important factor that has a positive effect on purchase intention, research on servicescape in the field of airport duty-free shops is virtually non-existent. In particular, a clear understanding as to which servicescape factors have positive effects on the emotional response and purchase intention of airport duty-free shop users is an essential ingredient in establishing strategies to increase sales. Hence, the ultimate purpose of this research is to analyze the effects that servicescape factors have on emotional response, service value, customer satisfaction, customer trust, and loyalty. At the same time, this study recognizes that there is a clear difference between men and women with respect to shopping-related decision making processes. As such, consideration should be given to gender when establishing a strategy with regard to the role that servicescape plays in predicting the purchase intention of consumers (Bakewell & Mitchell, 2006; Okazaki & Hirose, 2009). Accordingly, an attempt was made in this research to determine whether gender-derived differences existed in the effects created by servicescape factors.

2.   THEORATICAL BACKGROUND

Servicescape can be defined as signifying a physical environment in a service industry as well as an objective and artificial environment that cannot be controlled by individual businesses; it is a concept that stands in contrast to natural and social environments (Bitner, 1992). This refers to a place in which service providers participate together with customers in order to provide their services (commodities) (Kotler, 1973; Baker, 1987). Nguyen (2006) defines servicescape as a physical environment wherein service is provided and consumption takes place at the same time; it is a constructed consumption environment that stimulates human beings. As this kind of servicescape has effects on the behavior of customers who purchase services (commodities) as well as on corporate image, strategies on servicescape can be considered very important (Baker, 1990; Zeithaml et al., 1993). In particular, Zeithaml et al. (2006) have asserted that, as servicescape is an external outlook of a business, it constitutes a very important clue in forming the initial impressions and expectations of customers.

There are slight differences on what constitutes a servicescape depending on researchers and specific research targets. Wakefield & Blodgett (1994) classified servicescape constructs into five groups – layout and design, attractiveness, seat comfort, cleanliness of amenities, and electronic equipment and display. Lucas (2000) and Bitner (1992) also used five groups. The former used state of air-conditioning, access, interior decoration, seat comfort, and cleanliness, while the latter used peripheral elements, space arrangement and functionality, signal, symbol, and architecture. In addition, Noel et al. (2011) used seven groups – peripheral elements, space arrangement, functionality, cleanliness, signal, symbol, and architecture. Park (2014) conducted an empirical study on the servicescape of the duty-free shop and found that luxury, interior design and product installation were shown to affect buyer's purchasing habit. Based on these studies, the present research lists the constructs of a duty-free shop servicescape as convenience, cleanliness, attractiveness, amenities, and functionality. The relationship between servicescape and emotional response has

been studied by many scholars. According to Donovan & Rossiter (1982), servicescape properties had a significant impact on emotional response, and Wakefield & Blodgett (1996) showed that servicescape properties affected emotional response. The relationship between servicescape and emotional response was also revealed through studies carried out by Bellizzi & Crowley (1983), Bruner (1990), and Kotler (1973). Based on these studies, the present research offers five hypotheses on the relationship between emotional response and the five servicescape properties of an airport duty-free shop – convenience, cleanliness, attractiveness, amenities, and functionality – as follows.

H1: Convenience will have a positive effect on emotional response.
H2: Cleanliness will have a positive effect on emotional response.
H3: Attractiveness will have a positive effect on emotional response.
H4: Amenities will have a positive effect on emotional response.
H5: Functionality will have a positive effect on emotional response.

Emotional response refers to the state of emotion that a consumer subjectively feels when he or she purchases a product, and as such, emotional factors are recognized as important in considering consumer behavior (Bruner, 1990). Mehrabian & Russell (1974) empirically investigated the effects that environmental factors had on human emotion and measured the emotional response with a PAD model that divided it into three dimensions – pleasure (P), awareness (A), and dominance (D). Donovan & Rossiter (1982) also used this PAD model in measuring the emotion of consumers in a sales outlet during a shopping situation. In the present research, among many methods of measuring emotional response, the PAD model is chosen because it is the most representative and has been verified by various studies as an appropriate measurement scale.

Regarding the effects that emotional response has on service value and customer satisfaction, various studies have been carried out. Babin & Attaway (2000) verified the effects that positive emotion and negative emotion had on value, and Hightower et al. (2002) also confirmed in their analysis that emotional response affected service value. Donovan & Rossiter (1982) empirically verified that the emotional response felt in a shop environment had effects on customer satisfaction. Likewise, Dawson, Bloch & Ridgway (1990) also confirmed that the temporary feeling experienced in a sales outlet significantly affected customer satisfaction. Oliver (1997) also concluded that emotional response affected customer satisfaction. Based on these studies, the following hypotheses are offered.

H6a: Emotional response will have a positive effect on service value.
H6b: Emotional response will have a positive effect on customer satisfaction.

Service value can be defined as effort made by customers to purchase a service as well as those customers' perception of that effort (Parasuraman et al., 1998). Bieger et al. (2007) defined perceived value as a recognition of agreements and disagreements generated by comparing customer expectations. According to McDougall & Levesque (2000), the appearance of the service value perceived by customers could be confirmed by comparing the service costs and monetary aspects against those of competitors. Lee & Ulgado (1997) asserted that perceived service value had a positive effect on customer satisfaction. Bojanic (2000) verified through his study that service value was an antecedent of customer satisfaction, and Baker and Crompton (2000) concluded that service value was linked to service quality and customer satisfaction. Based on these studies on

service value, the following hypothesis on the relationship between service value and customer satisfaction is offered.

H7: Service value will have a positive effect on customer satisfaction.

Oliver (1997) defined customer satisfaction as a response to a fulfillment state of consumers or a judgment as to whether product or service characteristics, or a product or service itself, is provided or was provided at a pleasant level of fulfillment state for consumption. Howard & Sheth (1969) asserted that customer satisfaction was a cognitive state of consumers in which they felt that the price paid was adequately compensated. Westbrook (1981) defined customer satisfaction as an emotional response on the part of consumers to an evaluation of the experience that was obtained by using a particular product or service. Walker (1995) stated that customers received satisfaction when a perceived result was higher than expected, and that customer satisfaction was a union of a consumer's cognitive judgment and emotional response. Hellier et al. (2003) defined customer satisfaction as the degree of overall pleasure or satisfaction that customers felt as a result of the implementation of service carried out to fulfill the expectations and desires of the customers. Harkiranpal (2006) asserted that for the successful implementation of business management, it was necessary to grasp the desires and demands of customers in order to enhance customer satisfaction, and this played an important role in enhancing the profitability of a business.

Based on these studies, an attempt was made in this research to analyze the relationship between customer trust and customer loyalty with an emphasis on the cognitive satisfaction and emotional satisfaction that users of a duty-free shop felt. In Fornell's study (1992), it turned out that customer satisfaction reinforced customer participation in the service process, which in turn affected trust in the service provider. Ganesan (1994) asserted that long-time satisfaction reinforced trust in the service provider. In studies related to customer satisfaction and customer loyalty, the research has consistently indicated that customer loyalty can be enhanced by enhancing customer satisfaction (Anderson et al., 1994). Oliver (1993) and Cronin & Taylor (1994) asserted that when customers were satisfied with their purchases, loyalty was enhanced together with their intention to revisit. Ladhari et al. (2008) concluded that customer satisfaction affected recommendation intention and loyalty. Based on these studies, the following hypotheses on the effects of customer satisfaction are offered.

H8a: Customer satisfaction will have a positive effect on customer trust.
H8b: Customer satisfaction will have a positive effect on customer loyalty.

Swan et al. (1985) stated that trust was the most important element in the relationship between the seller and purchaser, and Parasuraman et al. (1985) asserted that trust was necessary for the construction of a relationship in service marketing since customers typically needed to purchase a service before experiencing it. A large number of additional studies on the subject proved empirically that trust had a mediating effect rather than affecting variables directly (Mishra & Spreitzer, 1998; Robinson & Tijoriwala, 1999; Simons & Peterson, 2000). According to a study by Srinivasan et al. (2002), trust was confirmed to be a factor affecting customer loyalty. In a study carried out by Yang & Peterson (2004) as well, customer trust was confirmed to be a variable that had a decisive effect on the formation of customer loyalty. Additional studies confirmed that trust had an effect on repurchase intention (Morgan & Hunt, 1994; De Ruyter et al., 2001; Gounaris,

2005). Regarding customer loyalty, Czepiel & Gilmore (1987) stated that it was a complex disposition that consisted of a behavioral response using a particular service consecutively, as well as a favorable attitude and response toward a particular service. Zeithaml & Bitner (1996) asserted that when customer loyalty was enhanced, benefits could be expected, including an increase in purchase frequency and volume, a reduction in cost, and favorable word-of-mouth effects. Based on these studies, the following hypothesis on customer trust and customer loyalty is offered.

H9: Customer trust will have a positive effect on customer loyalty.

Studies related to consumer behavior based on gender began during the 1960s as the concept of socio-psychological gender was introduced (Aiken, 1963; Vitz & Johnston, 1965). Palan (2001) conducted research on the effects of gender on consumer behavior, and she asserted that the process of consumption was closely related to biological gender and socio-psychological gender. Sanchez-Hernandez et al. (2010) found that men were more sensitive to the quality of the physical environment and quality of the results (i.e., they were result- or aim-oriented), whereas women were more sensitive to the quality of interaction (i.e., they were relationship- or society-oriented). Sommers (1984) asserted that emotional response differed based on gender, whereas Feingold (1994) showed that men were more emotionally stable than women. As described above, many scholars have claimed that customer behavior differs based on gender, but insofar as the mediating effect that gender elicits between servicescape and customer satisfaction or customer loyalty is concerned, the literature is still quite inadequate. In particular, in the case of duty-free shop users, although research has revealed differences in the awareness of the physical environment of duty-free shops and purchase behavior based on gender, studies on these differences have in fact been quite limited. Accordingly, an effort was made in this study to expand upon previous studies looking at gender differences in general and carry out research specifically on the gender differences present in the effects of duty-free shop servicescape.

3.   METHODOLOGY

3.1.   *Research Model*

The present research model was designed by drawing from previous studies on servicescape, emotional response, service value, customer satisfaction, customer trust, and customer loyalty. In this research model, as shown in Figure 1, the hypotheses are indicated using arrows. All hypotheses are set up as possessing positive effects.

Figure 1: Research Model
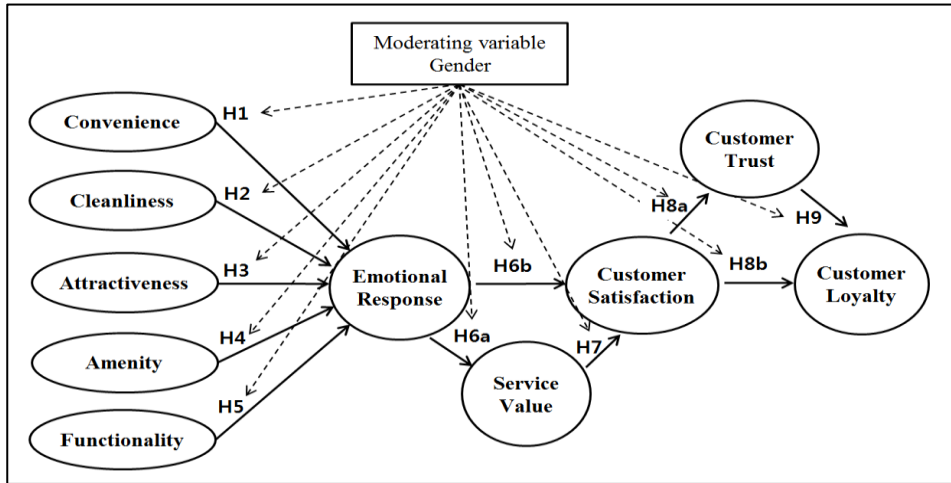
3.2.   Survey

In the questionnaire used in this research, related factors were drawn based on the existing literature. A preliminary survey was conducted, and the questionnaire content was subsequently modified and complemented. The questionnaire contained 43 measurement items that were used to verify the hypotheses. 17 items were used to measure the five servicescape constructs (convenience, cleanliness, attractiveness, amenities, and functionality), nine items were used to measure emotional response, three items were used to measure service value, six items were used to measure customer satisfaction, three items were used to measure customer trust, and five items were used to measure customer loyalty. The questionnaire was prepared using a 7-point Likert scale, where 7 indicated 'Very much so' and 1 indicated 'Not at all'. The composition of the questionnaire is shown in Table 1 below.

Table 1: Measurement Items

Measure	Variable[a]
Convenience	Waiting time at the cash register is short.
	Employee assistance is readily available.
Cleanliness	Facilities within the duty-free shop are generally clean.
	Products within the duty-free shop are kept clean.
	Employee appearance is neat, and the uniforms they wear are clean.
Attractiveness	The exterior of the duty-free shop is attractive.
	The interior decoration of the duty-free shop is attractive.
	Lighting within the duty-free shop is attractive.
	The exterior and interior of the duty-free shop look fashionable.

Measure	Variable[a]
Amenities	The temperature and humidity within the duty-free shop are appropriate for shopping.
	The indoor air within the duty-free shop is appropriate for shopping.
	The brightness of the lighting within the duty-free shop is appropriate for shopping.
	Color and hue within the duty-free shop are appropriate for shopping.
Functionality	Display stands within the duty-free shop are functionally well arranged.
	Notices and signs within the duty-free shop are functionally well arranged.
	The locations of the counters within the duty-free shop are functionally well arranged.
	The interior of the duty-free shop is functionally well arranged to allow for movement.
Emotional response	I felt 'happiness' while staying in the duty-free shop.
	I felt 'pleasure' while staying in the duty-free shop.
	I felt 'satisfaction' while staying in the duty-free shop.
	I felt 'delighted' while staying in the duty-free shop.
	I felt 'excited' while staying in the duty-free shop.
	I felt 'alive' while staying in the duty-free shop.
	I felt 'stimulated' while staying in the duty-free shop.
	I felt 'self-confident' while staying in the duty-free shop.
	I felt 'comfortable' while staying in the duty-free shop.
Service value	The service at the duty-free shop was worth the price paid.
	The shopping time at the duty-free shop was worth the services received.
	The shopping cost at the duty-free shop was worth the services received.
Customer satisfaction	I am satisfied with my decision to choose this duty-free shop.
	I think it was right to visit this duty-free shop.
	I feel familiar with this duty-free shop.
	I am satisfied with the atmosphere of this duty-free shop.
	I am satisfied with the price of the products purchased at this duty-free shop.
	I am satisfied with the quality of the products purchased at this duty-free shop.
Customer trust	I trust the quality of the products at this duty-free shop.
	I trust the price of the products at this duty-free shop.
	I trust the employees of this duty-free shop.
Customer loyalty	I will use this duty-free shop again if the opportunity arises.
	I will revisit this duty-free shop as the product prices are appropriate.
	I will revisit this duty-free shop as the quality of the products is excellent.
	I will recommend this duty-free shop to others looking to use a duty-free shop.
	I will comment positively on this duty-free shop to other people.

Note: A 7-point Likert scale

Because the proportion of Koreans in duty free shop sales is very large, the survey sample for this empirical research consisted of Koreans who had used an airport duty-free shop in the past. The survey was conducted at the airside of Incheon International Airport from Dec. 14, 2015 to Jan. 2, 2016. 350 questionnaires were distributed, and 332 copies were recovered. Of these, 27 copies were considered for removal because there were lots of missing data, leaving 305 copies to be used for the final analysis. The general characteristics of the samples are shown in Table 2.

Table 2: General Characteristics of Samples

Characteristics		Frequency	(%)
Gender	Male	163	53.4
	Female	142	46.6
Age	20 ~ 29	74	24.3
	30 ~ 39	102	33.4
	40 ~ 49	78	25.6
	50 ~59	35	11.5
	Older than 60	16	5.2
Purpose of travel	Business	54	17.7
	International Conference	7	2.3
	Tourism / Vacation	215	70.5
	Visiting friends and/or relatives	6	2.0
	Study-abroad	22	7.2
	Employment / Emigration	1	0.3
Shopping time	Under 30 minutes	53	17.4
	30 minutes – 59 minutes	140	45.9
	1 hour~1 hour 29 minutes	89	29.2
	1 hour 30 minutes ~ 1 hour 59 minutes	15	4.9
	More than 2 hours	8	2.6
Shopping items	Cosmetics/Fragrance products	183	60.0
	Cigarettes/Alcoholic beverages	66	21.6
	Leather	8	2.6
	Watches / Sunglasses	25	8.2
	Clothing	6	2.0
	Electronics	7	2.3
	Korean traditional food	6	2.0
	Others	4	1.3
Amount spent on shopping	Less than 100,000 won (a)	64	21.0
	100,000 ~ 300,000 won	115	37.7
	300,000 ~ 500,000 won	84	27.5
	500,000 ~ 700,000 won	19	6.2
	More than 700,000 won	23	7.5
Reason for purchase	Cheap prices	196	64.3
	Variety of merchandise	21	6.9
	Immediate receipt	39	12.8
	Variety of brands	18	5.9
	Discount coupons	21	6.9
	Others	10	3.3

	Characteristics	Frequency	(%)
Mostly used duty-free shop	Incheon International Airport	280	91.8
	Gimpo International Airport	8	2.6
	Jeju International Airport	14	4.6
	Others	3	1.0

Note: n=305, [a]1,236.50 KRW=1 USD, Feb. 29, 2016
Source: Oanda (2016)

4. EMPIRICAL RESULTS

4.1. *Measurement Model Evaluation*

Before verifying the research hypotheses, validity verification was carried out by conducting a confirmatory factor analysis of the measurement model. As a result of the validity verification, regarding the convenience factor, the squared multiple correlations (SMC) value and standardized regression coefficient value of the two measurement items turned out to be less than 0.4 and 0.5, respectively, so those items were eliminated. Accordingly, the standardized regression coefficient value for each measurement variable was 0.7 or above, thereby securing convergent validity.

In the measurement model analysis carried out after confirmatory factor analysis, the goodness of fit of the model was tested by combining all factors. The goodness of fit of the model was measured using Goodness of Fit Index (GFI), Normed Fit Index (NFI), Incremental Fit Index (IFI), Comparative Fit Index (CFI), Root Mean Square Residual (RMR), RMSEA (Root Mean Square Error of Approximation).

The overall goodness of fit of the model was as follows: $\chi 2$=1,441.707, df=886, CMIN/DF=1.627, p=0.000, GFI=0.788, NFI=0.876, IFI=0.948, CFI=0.947, RMR=0.059, RMSEA=0.045. Although the GFI and NFI were lower than the standard value, the remaining indices were satisfactory overall as they fit the accommodation level. Furthermore, in the measurement model, as a result of the calculation for each potential variable, the AVE values for all constructs turned out to be 0.5 or above, indicating that there existed convergent validity between measurement variables. The results of the validity and reliability analyses are shown in Table 3.

Table 3: Statistics of Construct Items

Construct	Measurement items	SMC[a]	Regression weight (C.R.)[b]	Standardized regression weight	AVE[c]	C.R.[d]	α[e]
Convenience (CO)	A1	0.677	0.934(11.541[*])	0.829	0.675	0.805	0.716
	A2	0.905	1.000(Fix)	0.945			
Cleanliness (CL)	B1	0.741	1.025(15.381[*])	0.860	0.773	0.911	0.918
	B2	0.824	1.000(Fix)	0.910			
	B3	0.645	0.923(13.478[*])	0.800			

Construct	Measurement items	SMC[a]	Regression weight (C.R.)[b]	Standardized regression weight	AVE[c]	C.R.[d]	α[e]
Attractiveness (AT)	C1	0.712	0.945(14.057*)	0.842			
	C2	0.844	1.023(16.529*)	0.918			
	C3	0.838	1.000(16.413*)	0.917	0.767	0.929	0.946
	C4	0.738	1.000(Fix)	0.859			
Amenities (AM)	D1	0.667	0.919(13.636*)	0.817			
	D2	0.711	0.984(14.509*)	0.843			
	D3	0.736	1.003(15.044*)	0.858	0.618	0.866	0.934
	D4	0.781	1.000(Fix)	0.883			
Functionality (FU)	E1	0.671	0,926(10.343*)	0.821			
	E2	0.780	1.130(11.156*)	0.885			
	E3	0.678	1.149(15.104*)	0.820	0.659	0.885	0.905
	E4	0.539	1.000(Fix)	0.731			
Emotional response (ER)	F1	0.807	1.000(Fix)	0.895			
	F2	0.732	1.139(14.889*)	0.859	0.625	0.833	0.878
	F3	0.587	0.982(12.096*)	0.768			
Service Value (SV)	G1	0.758	0.923(14.204*)	0.871			
	G2	0.736	1.019(16.273*)	0.857	0.742	0.896	0.919
	G3	0.756	1.000(FIX)	0.870			
Customer Satisfaction (CS)	H1	0.818	0.989(19.151)*	0.904	0.785	0.880	0.935
	H2	0.861	1.000(FIX)	0.929			
Customer Trust (CT)	I 1	0.598	1.000(Fix)	0.770			
	I 2	0.628	1.331(10.724*)	0.799	0.677	0.863	0.880
	I 3	0.718	1.197(11.631*)	0.843			
Customer Loyalty (CL)	K 1	0.763	1.000(Fix)	0.869			
	K 2	0.677	0.981(14.156*)	0.844			
	K 3	0.782	1.074(16.009*)	0.886	0.745	0.936	0.948
	K 4	0.815	1.202(16.758*)	0.901			
	K 5	0.847	1.102(17.465*)	0.920			

χ^2=1,441.707, df=886, CMIN/DF=1.627, p=0.000,
GFI=0.788, NFI=0.876, IFI=0.948, CFI=0.947, RMR=0.059, RMSEA=0.045

Note: * Values in parentheses are critical ratios and all the values are significant (p< 0.01). [a] Squared Multiple Correlations; [b] Critical Ratio; [c] Average Variance Extracted; [d] Composite Reliability; [e] Cronbach's α

In the constrained model where covariance among constructs was fixed as 1, the following values were obtained: χ^2 =2,343.564 with 992 df at p < 0.01, CFI of 0.872, and an RMSEA of 0.067. In contrast, in the unconstrained model where free correlation was allowed, the following values were obtained: χ^2 =1,606.135 with 900 df at p < 0.01, CFI of 0.933, and an RMSEA of 0.051. As such, discriminant validity existed between constructs as $\Delta\chi^2$= 737.429(92) was obtained between these two models, which was significant under the standard of p < 0.01($\Delta\chi^2$ >6.63) (Anderson, 1987; Bagozzi & Phillips, 1982; Steenkamp & van Trijp, 1991). Therefore, the constructs used in this research secured partial discriminant validity since most of the analysis values for the constructs fit the accommodation level. The results of the validity verification are shown in Table 4.

Table 4: Correlation Matrix of Variables

Construct	CO	CL	AT	AM	FU	EM	SV	CS	CT	CL
CO	**0.681**									
CL	0.416**	**0.773**								
AT	0.234**	0.362**	**0.759**							
AM	0.325**	0.629**	0.648**	**0.675**						
FU	0.391**	0.411**	0.570**	0.605**	**0.674**					
EM	0.243**	0.180**	0.354**	0.430**	0.540**	**0.631**				
SV	0.208**	0.235**	0.251**	0.368**	0.449**	0.743**	**0.756**			
CS	0.335**	0.298**	0.328**	0.473**	0.549**	0.728**	0.692**	**0.779**		
CT	0.343**	0.432**	0.233**	0.365**	0.513**	0.491**	0.601**	0.726**	**0.676**	
CL	0.203**	0.178**	0.255**	0.341**	0.446**	0.616**	0.555**	0.712**	0.707**	**0.760**

Note: The bold scores (diagonal) are the AVEs of the individual constructs, and the off-diagonal scores are the squared correlations between the constructs. The numbers in parentheses refer to the standard error of the covariance.
**Significant at 0.01 overall.

4.2. *Hypotheses Testing*

Structural Equation Modelling was used to test the hypotheses of this research. The goodness of fit index was obtained as follows: χ^2 = 1,595.990, df = 934, p < 0.001, GFI = 0.769, AGFI = 0.723, RMR = 0.099, CFI = 0.937, TLI = 0.929, RMSEA = 0.048. Although the GFI and AGFI values were a little low, the goodness of fit accommodation level was satisfied as the other goodness of fit indices were good. Therefore, the structural equation model suggested in this research could be judged as appropriate. The results of the hypotheses testing are shown in Table 5.

Table 5: Results of Research Hypotheses Testing

Hypothesis	Path	Standardized estimate	C.R.	p-value	Decision
H1	Convenience → Emotional response	0.177	2.351	0.019*	Supported
H2	Cleanliness → Emotional response	-0.158	-1.829	0.067	Not supported
H3	Attractiveness → Emotional response	0.219	2.951	0.003**	Supported
H4	Amenities → Emotional response	0.189	1.880	0.060	Not supported
H5	Functionality → Emotional response	0.429	4.202	0.000**	Supported
H6a	Emotional response → Service value	0.862	16.739	0.000**	Supported
H6b	Emotional response → Customer satisfaction	0.433	4.841	0.000**	Supported
H7	Service value → Customer satisfaction	0.489	5.409	0.000**	Supported
H8a	Customer satisfaction → Customer trust	0.873	17.423	0.000**	Supported
H8b	Customer satisfaction → Customer loyalty	0.576	6.873	0.000**	Supported
H9	Customer trust → Customer loyalty	0.352	4.175	0.000**	Supported

Notes: C.R. = Critical Ratio: *$p < 0.05$, **$p < 0.01$

All but two of the hypotheses were statistically significant. The hypotheses that were not significant were the effect that cleanliness had on emotional response and the effect that amenities had on emotional response. Once examined concretely, the results could be summarized as follows. First, among servicescape attributes, convenience, attractiveness, and functionality had positive effects on emotional response. This indicates that if a duty-free shop is convenient, the internal and external facilities are attractive, and the facilities and internal moving lines are functionally well arranged, they will have greater effects on emotional response. Second, emotional response had positive effects on service value and customer satisfaction. This indicates that depending on the emotional state of the users, service value and customer satisfaction are affected differently. Third, service value had a positive effect on customer satisfaction. This indicates that if customers feel the service value they have received is higher in comparison to the shopping cost and time they have spent in a duty-free shop, they will feel a higher level of satisfaction. Fourth, customer satisfaction had positive effects on customer trust and customer loyalty. This result indicates that if customers feel higher levels of satisfaction from an airport duty-free shop, they will have higher levels of trust in terms of product quality, price, and shop employees, which in turn will enhance loyalty factors such as the intention to revisit and recommend.

4.3. Moderating Effects

In this research, an attempt was made to find out whether there was a difference in the effects that the servicescape of an airport duty-free shop had on customer loyalty depending on gender. As such, an additional analysis was conducted to determine if a significant difference existed in the path coefficients of the research model based on gender. The results of the model goodness of fit and hypotheses verification of gender groups are shown in Table 6, Figure 2 and Figure 3. When the goodness of fit index was checked, GFI, AGFI, and NFI turned out to be a little lower than the standard value, but when other goodness of fit indices were considered together, the results were

good, indicating that the model did not need modification. However, in order to confirm measurement invariance before verification among gender groups, a multi-sample confirmatory factor analysis was conducted. Since the differences in the p value for $\Delta \chi^2 =44.812$, $\Delta df=34$, and χ^2 between the unconstrained model and constrained model turned out to be 0.102 (p = 0.102), the model of regression coefficients by gender group were considered to have been satisfied with respect to the fitness requirement. In other words, gender, which was a moderating variable, had statistically significant moderating effects in terms of the relationship with servicescape determinants (independent variable), emotional response, service value, customer satisfaction, customer trust (mediating variable), and customer loyalty (dependent variable).

As a result of the analysis of path coefficients by gender group, the R^2 values for the emotional response, service value, customer satisfaction, customer trust, and customer loyalty of the male group were calculated at 0.651, 0.763, 0.827, 0.741, and 0.780, respectively. The R^2 values for the emotional response, service value, customer satisfaction, customer trust, and customer loyalty of the female group were calculated at 0.617, 0.730, 0.776, 0.778, and 0.855, respectively. This indicates that for men, greater explanatory power existed in emotional response, service value, and customer satisfaction than it did for women. For women, greater explanatory power existed in customer trust and customer loyalty. This shows that when in a duty-free shop, men feel more strongly with respect to the pleasure, lively, and ease of emotion categories than women. This discovery accords with the results of Feingold's study (1994). Regarding duty-free shop service, men were satisfied; they felt that the time and cost were truly worthwhile. In contrast, women had higher levels of trust in the quality and price of the products, and they displayed a greater intention to revisit the duty-free shop or recommend it to others.

Hypothesis H1, which stated that gender would have an effect on convenience and emotional response, was not statistically significant for men or women. Hypotheses H1, H2 and H4 – representing the relationships between convenience and emotional response, cleanliness and emotional response, and amenities and emotional response, respectively – were statistically significant for men but not for women. In contrast, Hypothesis H3, which stated that attractiveness would have an effect on emotional response, was not statistically significant for men but not for women. This indicates that the men exhibited an emotional response to the cleanliness of the facilities and employees and to the indoor amenities, whereas the women exhibited a more emotional response to the fashion of the indoor and outdoor facilities. Hypothesis H5, which asserted a relationship between functionality and emotional response, was statistically significant for both men and women. This suggests that if a duty-free shop's facilities and internal moving lines are well arranged, they can have positive effects on the emotional responses of both men and women. Both H6a, which represented the relationship between emotional response and service value, and H6b, which represented the relationship between emotional response and customer satisfaction, were statistically significant. Hypotheses H7, which represented the relationship between service value and customer satisfaction, H8a, which represented the relationship between customer satisfaction and customer trust, and H8b, which stated that customer satisfaction would have an effect on customer loyalty, were statistically significant for both men and women. Lastly, Hypothesis H9, which stated that customer trust would have an effect on customer loyalty, was statistically significant for both men and women.

The Effects of Airport Duty-free Shop Servicescape on Emotional Response and Loyalty
with an Emphasis on the Moderating Effect of Gender

Table 6: Results for the Moderating Effects Models

	χ^2	df	$\chi^2_{0.05(20)}$ Critical Value	$\chi^2_{0.05(20)}$ Variation	GFI	AGFI	NFI	CFI	RMSEA	RMR
Unconstrained model (Group variant)	1595.990	934	48.602	44.812	0.797	0.710	0.862	0.933	0.051	0.059
Constrained model (Group invariant)	1640.802	968			0.676	0.634	0.798	0.872	0.067	0.377

	Male (N = 163)			Female (N = 142)		
Hypothesis (Path)	SE[a]	C.R.	Decision	SE[a]	C.R.	Decision
H1. Convenience → Emotional response	0.154	1.727	Not supported	0.219	1.827	Not supported
H2. Cleanliness → Emotional response	-0.353	-2.582**	Supported	-0.182	-1.323	Not supported
H3. Attractiveness → Emotional response	-0.143	-1.066	Not supported	0.364	3.426**	Supported
H4. Amenity → Emotional response	0.533	2.667**	Supported	0.128	1.064	Not supported
H5. Functionality → Emotional response	0.596	4.156**	Supported	0.367	2.629**	Supported
H6a. Emotional response → Service value	0.873	12.487**	Supported	0.854	11.190**	Supported
H6b. Emotional response →Customer satisfaction	0.571	4.435**	Supported	0.327	2.627**	Supported
H7. Service value → Customer satisfaction	0.367	2.865**	Supported	0.584	4.591**	Supported
H8a. Customer satisfaction → Customer trust	0.861	10.885**	Supported	0.882	13.484**	Supported
H8b. Customer satisfaction →Customer loyalty	0.531	4.317**	Supported	0.591	5.440**	Supported
H9. Customer trust → Customer loyalty	0.384	3.034**	Supported	0.360	3.337**	Supported

Notes: *p < 0.05, **p < 0.01; [a] Standardized estimate

Figure 2. Results of Research Hypotheses Testing for male
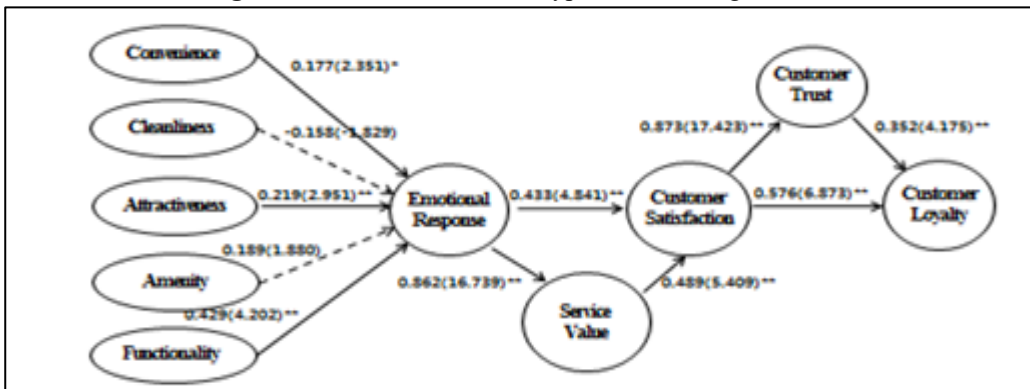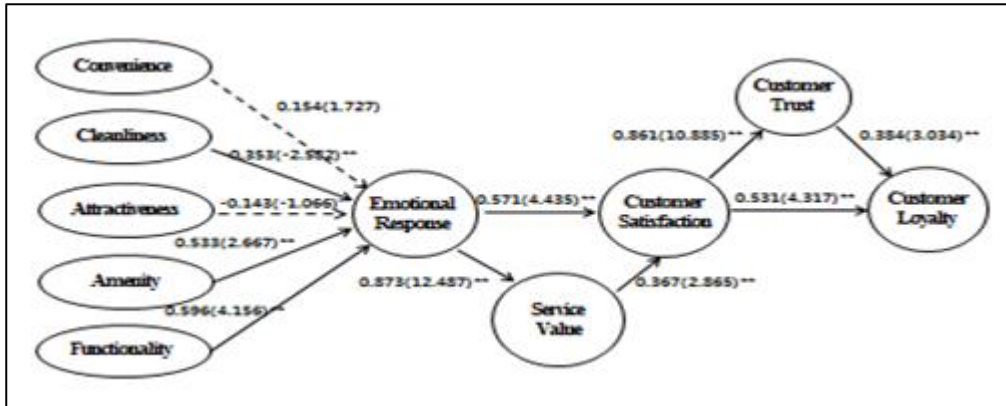
Figure 3. Results of Research Hypotheses Testing for female

5. CONCLUSIONS AND DISCUSSION

This study explored the servicescape properties of an airport duty-free shop and analyzed the effects that servicescape had on the emotional response, service value, customer satisfaction, customer trust, and loyalty of duty-free shop users. An analysis was also carried out on the differences in the effects that servicescape factors had depending on gender. The results can be summarized as follows: First, three servicescape factors – functionality, attractiveness, and convenience – had significant effects on emotional response. This indicates that a convenient environment will have a positive effect on the emotional response of duty-free shop users. This environment should include functionally well arranged display stands and internal moving lines, an attractive exterior and interior, attractive lighting, relatively short wait times at the counters, and readily available employee assistance. In contrast, cleanliness and amenities did not affect emotional response. Second, emotional response affected service value and customer satisfaction. This implies that if customers feel pleasure and satisfaction as well as a lively mood and comfortable feeling while in a duty-free shop, they will recognize service value more highly and feel a greater level of satisfaction. Third, service value had a significant effect on customer satisfaction. The customers who recognized higher value owing to the service they received at the duty-free shop were affected to a greater extent with regard to customer satisfaction. Service value was verified as playing a mediating role in the way emotional response affected customer satisfaction. Fourth, customer satisfaction turned out to have significant effects on customer trust and customer loyalty. This indicates that if the level of satisfaction is high toward a duty-free shop, it tends to enhance customer trust in that duty-free shop. This also suggests that when the level of customer satisfaction is high, there is a good possibility that the customers concerned will become loyal customers who revisit, recommend or speak of the shop positively. Fifth, customer trust had significant effects on customer loyalty. In addition, as customer satisfaction affected customer loyalty, it was verified that customer trust played a role as a mediating variable. This confirmed that when the quality and prices of duty-free shop products were agreeable and trust in the employees was high, customer loyalty was enhanced.

In considering the effects that the servicescape of an airport duty-free shop had on customer loyalty, an additional analysis was carried out that utilized gender as a moderating variable. The results can be summarized as follows. First, each servicescape factor had a different effect on emotional response depending on gender. For men, functionality, amenities, and cleanliness had a positive effect on emotional response. For women, functionality and attractiveness had a positive effect on emotional response. Functionality turned out to be very significant for both groups, but convenience did not have any effect. This suggests that regardless of gender, when display stands, notices, signs, and counters are functionally well arranged and the interior of the duty-free shop is conveniently arranged to facilitate movement, these variables have strong positive effects on emotional response. In addition, men were affected to a greater extent by the amenities of the duty-free shop. These amenities included the pleasant temperature, humidity, and lighting, as well as the facilities and employee cleanliness. Women, on the other hand, experienced feelings of pleasantness, liveliness, and comfort to a greater extent due to the attractive exterior and interior, attractive lighting, and fashionable exterior and interior facilities. Second, emotional response had a greater effect on service value and customer satisfaction for men. This indicates that the men appreciated the service value of the duty-free shop more highly and felt greater satisfaction when the servicescape elicited a positive feeling. Third, service value had a greater effect on customer satisfaction for women. This suggests that the women had higher levels of satisfaction when they felt that the services they received at the duty-free shop and the shopping time and cost they spent were worth the money paid. Fourth, the effect that customer satisfaction had on customer trust and the effect that customer satisfaction had on customer loyalty were greater for women. However, the difference here was not substantial. In addition, in the relationship between customer trust and customer loyalty, no great difference was discovered between the two groups. As revealed by the results of this research, the influence of the two groups on the hypotheses was different. Therefore, when reinforcing the servicescape of an airport duty-free shop, these gender-derived differences should be properly reflected when establishing and promoting a reinforcement plan. In particular, of all servicescape constructs, since functionality was verified to have a greater effect on both groups, this construct should play a primary role.

This study presents the following implications on the airport management based on the empirical findings. Firstly, the placement and functionality of display stands and the signs of the duty-free shop should be considered first so that airport users can easily recognize them and shop accordingly to the line of flow. Secondly, the exterior and the interior design, which includes the lighting facilities and the installation of products, of the duty-free shop should follow the latest trend and be designed attractively. In particular, luxury brand stores and cosmetic stores are known to attract female customers. Therefore, these stores should have an elegant exterior and luxurious décor. Thirdly, the number of products must be sufficient and the payment should be carried out quickly so that customers can purchase as many items as they can without spending too much time shopping. Lastly, a marketing strategy should be developed to increase customer loyalty by providing differentiated service to customers.

The limitations and future research considerations related to this study are as follows. First, as this research utilized only Korean users of a duty-free shop as target, it lacks sample representativeness. In the future, this problem can be solved by conducting a questionnaire survey that includes foreign transfer passengers. Second, this research was carried out on users of airport duty-free shops in Korea, but 92% of them reported using shops at Incheon International Airport. Since servicescape

characteristics vary depending on airport, it would be beneficial to conduct further research that incorporates users of shops in a variety of airports. In Korea, Gimpo International Airport and Gimhae International Airport could be targeted. Third, this research was carried out only on duty-free shops, while other airport facilities were disregarded. This placed an undue limitation on space. Since perceptions of servicescape regarding other airport facilities can differ, additional research on facilities such as airport lounges and transfer amenities should be carried out in the future.

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