

The Influence of Physical Environment on Buying-Risk Perception: Customers at Franchise Korean-Restaurant

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ABSTRACT: The purpose of this article was to examine the influence of physical environment on customer's buying-risk perception at franchise Korean restaurants. In this research factor analysis and multi regression analysis were used. Physical environment were divided to 3 factors and risk perception to 5 factors. Internal environment affected negatively financial risk ($p < 0.001$), time risk ($p < 0.001$) and psychological risk ($p < 0.001$). External environment had negative influence on time risk ($p < 0.05$) and psychological risk ($p < 0.05$). And the other environment negatively affected financial risk ($p < 0.001$), time risk ($p < 0.001$) and psychological risk ($p < 0.05$). According to these results, we confirmed that various physical environments influenced on the risk perception of customers. As a result, food service corporations need to deal with physical environment efficiently. And the findings of this research would help their business management to build effective service marketing strategies and to satisfy the needs of customers at franchise Korean restaurants.

Keywords: physical environment, risk perception, Korean restaurant

INTRODUCTION

Consumer's perceptions about their buying foods with service connote critical conception which leads their satisfaction and loyalty for specified brand among various marketing strategies of food service restaurant corporations [5]. And they are appearing various types according to individual personality, lifestyle, personal value, risk perception, company's marketing strategy and the other valuables [19].

And especially customers' perceptions about their satisfaction, loyalty, switching behavior and actions after purchasing are affected much by their previous risk perception [13,27]. Because food service offerings have large intangibility in natural, consumers are unable to assess the purchase outcome prior to

experience. And specified risk makes their dissatisfaction in service organizations [3,14]. In other words, It means that customers feel various risks at purchasing process on account of service's intangibility. In particular the risk perception of consumers about visiting and using restaurants with service comes into different sights in comparison with purchasing each of manufactured products and fine services [7,11,27]. Namely, because restaurant of food service corporations is the complex place where deals visible food to see with own eyes of oneself and intangible service not to grasp practically together, it means that the degree and aspects of customer's risk perception at restaurant can be different from buying pure service only on the same goods as information, communications network, bank and

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insurance products [11]. Therefore food service corporations need to make diverse and practical efforts to support physical environments to reduce risk perception of consumer [8,17].

Meanwhile, study of risk perception has been a popular area of research within consumer psychology for over three decades. And researches about risk perceptions are fulfilled in the field of public policy, insurance, law, decision making, administration and economic to the present [10]. In general, risk perception is thought as arising from unanticipated and uncertain consequences of a dissatisfied and unpleasant nature resulting from the purchasing of product and service. As the results of previous research, it has proved that consumer's risk perception influenced significantly on their purchasing behavior, satisfaction and loyalty [12]. However, there has been found few previous research about the case of food service industry.

In the study of relations among service marketing strategies, perceived quality, satisfaction and loyalty. Williams [24] suggested physical environment was composed of service process, place, participants and physical evident, and these affected positively or negatively consumer's satisfaction, creation of new customer and retention of loyalty. However, Snoj et al [22] asserted that service had 3 kinds of risk perception which were generality, physical intangibility and mental intangibility. And intangibility influenced negatively consumer's risk perception. Namely, this means that physical clue or environment is possible to reduce their risk perception. Lovelock & Lauren [16] and Zeithaml et al [28] proposed physical evidence and employee. And they were differentiated service corporation's marketing strategy from existing marketing strategy. These physical clues reduced consumer's risk perception due to intangibility in service.

The studies in Korea were as follows. Bae & Hong [1] conducted the international comparative study about consumers' positive behavioral intention of physical environment between Korean and Japanese hotel restaurants. And physical environment with 11 items-internal and external facilities, menu book, interior and etc influenced significantly consumer's behaviors to buy in this study. Lee, Cho & Kim [15] researched the study about physical environment-

convenience about smoking area ; cleanness of facilities and restroom, employee's uniforms and counter ; attraction of internal and external beauty ; entertainment of music, sculptures and decorations at buffet restaurants. And physical environment had significant effects on customer's satisfaction partially. On buying food service at restaurant, customer is confused on account of intangible characteristics. Intangibility is a meaning that which cannot be easily defined, formulated or grasped mentally due to the lack of physical environment [3]. Hence, there is a need for developing a deeper understanding of the linkage between physical environment and risk perception. The purpose of this research was to study the influence of physical environment on risk perception at franchise Korean restaurants. Furthermore we hope managers of hospitality industry to build effective service marketing strategies with implication of this research.

LITERATURE REVIEW

Physical Environment

Because service has natural feature with intangibility not to see and touch, and simultaneity to sell and buy, the importance and need of physical environment with corporeity is to be heightened. Namely, consumers want to find tangible cues prior to purchasing service goods. In other words, physical environment can have a role as tangible cues to consumers. Previous study about physical environment were focused on the perceived image of consumer generally. But these study had some limitations not to reflect their emotional value with being considered deep by consumers [8]. Since 1980s, because consumers have pursued the consumption for entertainment and enjoyment, emotional elements about service, and advertizing have been emphasized more. Therefore consumers have considered more carefully buying condition with service's functional benefits and experience about purchasing [25]. Baker [2] and Robson [20] composed physical environment of 3 factors (e.g., surroundings, design and social elements). And physical environment influenced significantly consumer's satisfaction. Kim & Park [6] suggested it with 3 factors (e.g., interior environment, cleanness and convenience). And they

Table 1. Classification of risk perception by researcher

Researcher	Risk	Physical risk	Financial risk	Social risk	Performance risk	Psychological risk	Time risk
Jacoby & Kaplan(1972)		○	○	○	○	○	
Peter & Ryan(1976)		○	○	○	○	○	
Booker(1984)		○	○	○	○	○	○
Stone & Gronhaug(1993)		○	○	○	○	○	○
Dowling & Staelin(1994)		○	○	○	○	○	○
Kurtz & Clow(1997)			○	○	○	○	
Mitchell(2001)		○	○	○	○	○	○
Laroche et al(2004)		○	○	○	○	○	○

Source : Yoon(2014)-The influence of tangible clue of raw-fish restaurants on consumers' emotional responses & repurchasing behavior in east-northern area of Kangwon-province. *Korean J Food Cookery Sci* 29(5):533-541.

asserted that physical environment affected customer's revisit intention partially. Buy the way, Lee et al [15] composed physical environment of 2 factors (e.g., design and atmosphere). As a result, they found that design factor had significant effect on the psychological risk at fast food restaurant. At last Yoon [27] composed physical environment of 4 factors (e.g., exterior facility, interior facility, the others and press copy) at raw-fish restaurant. And physical environment were proved to have negative influence on risk perception of customers partially.

Risk Perception

Risk perception is an important concept in the field of the consumer behavior with abundant and deep historical previous literature. And it has been researched to concentrate on the evaluation about buying decision, selection and buying behaviors [1]. Risk perception is potential loss to be aroused from the result of some actions [18]. And it means the degree of various risks at purchasing process and consumer's perception of special brand. It can be regarded as individual perception from negative and uncertain results. Therefore it means more objective risk than subjective one. Risk perception can be classified variously by contents and character to be

Table 2. Contents of risk perception

Risk	Contents	Risk perception
Physical risk	The potential damage from healthy danger and peril after purchasing action without safety of goods and service	
Financial risk	The potential damage of cash connected with all process of purchasing behavior	
Social risk	The potential loss of admiration, sense of identity, esteem, special concern and friendship from other people	
Performance risk	The risk of damage from non-completion of goods and service after purchasing	
Psychological risk	The latent damage of self-image and self-concept as the purchasing behavior	
Time risk	The damage of time and effort connected with goods and service	

Source : Laroche et al(2004). Exploring how intangibility affects perceived risk. *Journal of Service Research*, May, 6(4):373-389.

perceived. After Stone & Grønhaug (1993), Dowling & Staelin [4] and Kurtz & Clow (1997) fulfilled the study of 5 perceived risk to be made up of social, psychological, physical, financial and performance risk (quoted from [10]). And new research suggested to perform with 6 perceived risks to be added time risk. The contents of risk perception according to researchers were as following.

And following is the contents of risk perception (Table 2).

In this study, we wanted to argue that tangible environment was antecedent to the risk perception. And it was consulted by the document of the previous study of Lee, Cho & Kim [15] and Yoon [27]. We proposed physical environment could reduce consumer's risk perception due to intangibility in service. And because Baker [2], Robson [20], Laroche et al [10] and Yoon [27] suggested tangibility had negative effects on the consumer's perception about risk to purchase, it means that physical environments have negative influence on the consumer's risk perception. Therefore, the purpose of this study was understanding whether physical environment had negative influence on the risk perception or not (Figure 1).

While intangibility is generally thought to the cause of risk perception, a few research about the influence of 3 factors of physical environment on five dimensions of risk perception have been found. In other words on the bases of this story, the hypothesis of our research was as followings.

Hypothesis 1 : Internal environment influences negatively the risk perception.

Hypothesis 2 : External environment influences negatively the risk perception.

Hypothesis 3 : The other environment influences negatively the risk perception.

METHODS

Measurement

A self-administered questionnaire was developed based on a comprehensive review of physical environment and buying-risk perception for this study. Physical environment in this study means physical assets that customers can confirm service goods and quality of food service corporations with their naked eyes. In this research, variables of physical environment were referred to them of Kim & Park [6], Ping & Noel [19] and Lee et al [14,15]. These were composed of 3 factors. Namely, they were internal environment, external environment and the other environment with 17 valuables. And these items were measured by strongly disagree (1 point), normally agree (4 point) and strongly agree (7 point).

Buy the way, risk perception means usually degree of risk which customer feels to buy some service goods in the purchasing process, and about specified brand and shop attributes. In this research, variables of risk perception referred to them of Laroche [10], Lee et al [14] and Yoon [27]. These were purified and composed of 6 factors with 24 variables. Namely, they were physical risk, financial risk, time risk, performance risk, psychological risk and social risk. And these were measured by strongly disagree (1 point), normally agree (4 point) and strongly agree (7 point).

Sample and Data Collection

Subject of investigation was customers of franchise Korean restaurants (e.g., Nolbu, Bulgogi brothers, Wonhalmuni bossam corporation at three cities (e.g., Pusan, Daejeon, Seoul). And they had 20 millions-Korean won over-sale per 1 month through beforehand-questions and answers. Questionnaire were reformed through a preliminary examination after studying of previous researches. At first, physical environment was composed of 17 questions. And demo-

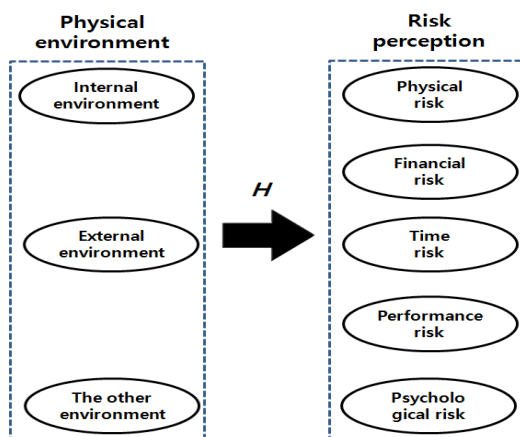


Figure 1. Research model.

cratic variables put together 6 questions (e.g., gender, job, scholarship, partner, number of monthly use, use expense per once of 1 person). Risk perception was composed of 6 factors with 24 questions. Surveys with written comments were encouraged during the completion of the questionnaire. And they were collected immediately upon completion.

In this research, beforehand-question with 120 sheets was executed by customers on the spot at Korean restaurants (each 1 place in Pusan, Daejeon and Seoul) from December 1st to 30th in 2014 years. After modification of this research, second real question with 500 sheets was performed from July 1st to 31st in 2015 years. Efficient questionnaires-473sheets (withdrawal ratio-94.6%) were adopted to analysis.

Data Analysis

SPSS 18.0 package program was adopted to analyze the data. In the analysis program, at first, we performed basic statistics analysis to find the general characteristics of customers. And factor analysis was done to evaluate construction of validity and to identify reliability of physical environment and risk perception. At last, we tested multi-regression analysis from physical environment to risk perception (H1, H2, H3).

RESULTS

Descriptive Statistics of Sample

Descriptive statistics of purified sample was Table

Table 3. Descriptive statistics of sample (N=473)

Categories	Result	Frequency	N	%
Gender	Male		201	54.0
	Female		171	46.0
Job	University student		43	9.1
	Salaried man		191	40.4
	Public service personnel		101	21.3
	Owner		73	15.4
	Profession		65	13.7
Scholarship	High school graduate		33	8.8
	College graduate		88	23.8
	University graduate		137	36.8
	Graduate school≤		114	30.6
Partner	Alone		77	16.3
	Friend		248	52.4
	Lover		73	15.5
	Family		75	15.8
Number of monthly use	≥2		159	42.7
	3~5		185	49.7
	6≤		28	7.6
Use expense per once of one person (1,000 won)	<10		97	26.1
	10~15		153	41.1
	15~20		85	22.8
	20~25		27	7.3
	25≤		10	2.7

3. At first, the number of man was 201 (54.0%), and woman was 171 (46.0%) by gender. The number of university student was 43 (9.1%), salaried man was 191 (40.4%), public service personnel was 101 (21.3%), owner was 73 (15.4%), and profession was 65 (13.7%) by job. Buy the way, highschool graduate was 33 (8.8%), college graduate was 88 (23.8%), university graduate was 137 (36.8%), and graduate school was 114 (30.6%). And the number of alone was 77 (16.3%), friend was 248 (52.4%), lover was 73 (15.5%), and family was 75 (15.8%) by partner. Through this results, the ratio of alone showed higher points than family and lover by partner among customers. Namely it can be consider activating differentiated and special Korean restaurant for one person household to enjoy the foods by oneself. Buy

the way, the number of monthly use under 2 times was 159 (42.7%), the number from 3 to 5 times was 185 (49.7%), and the number over 6 times was 28 (7.6%). At last, use expense per once of one person under 10,000 Korean won was 97 (26.1%), the number from 10,000 to 15,000 won was 153 (41.1%), the number from 15,000 to 20,000 won was 85 (22.8%), the number was from 20,000 to 25,000 won was 27 (7.3%), and the number over 25,000 won was 10 (2.7%).

Factor Analysis about Physical Environment and Risk Perception

At the results of factor analysis about physical environment, the number of Kaiser-Meyer-Olkin (0.83) appeared to be suitable for factor analysis. And the

Table 4. Factor analysis of physical environment

Variables	m±std	Factor analysis			
		Commodity	Rotation loading capacity	Cronbach's α	
Internal environment	Maintenance & condition of smoking room	2.88±0.45	0.91	0.80	0.75
	Maintenance & condition of playing room for children	3.47±0.35	0.77	0.76	
	Maintenance & condition of feeding room	4.55±0.32	0.68	0.73	
	Maintenance & condition of waiting sector	4.47±0.88	0.83	0.71	
	Cleanness & comfortableness of restroom	4.12±0.29	0.70	0.79	
Tangible environment	Maintenance & condition of parking lots	4.52±0.09	0.69	0.73	0.71
	Beauty of signboard	4.32±0.21	0.73	0.71	
	Elegance of exterior decoration	4.01±0.54	0.74	0.74	
	Maintenance & condition of outdoor cookers	4.19±0.08	0.77	0.71	
	Establishment & easy identification of signage to restaurants	4.16±0.38	0.69	0.74	
The other environment	Elegance of indoor design & interior	4.33±0.47	0.79	0.73	0.65
	Arrangement & elegance of furniture	3.65±0.08	0.68	0.71	
	Arrangement & condition of utensils, equipments	4.09±0.34	0.71	0.70	
	Comfortableness of indoor air	4.27±0.39	0.74	0.75	
	Suitableness & atmosphere of music	3.52±0.01	0.66	0.69	
	Uniform's condition of personnels	3.99±0.74	0.70	0.63	
	Equipment of press copy, stationery, brochure	4.12±0.02	0.69	0.66	
Kaiser-Meyer-Olkin coefficient=0.83, Bartlett's $\chi^2=227.93(p=0.000)$					

Table 5. Factor analysis of risk perception

	Variables	m±std	Factor analysis		
			Comm- odity	Rotation loading capacity	Cron- bach's <i>α</i>
Physical risk	I worry about Korean restaurant's foods for diet control.	2.55±0.11	0.68	0.75	0.81
	Korean restaurant's foods are the cause of digestive trouble.	3.32±0.07	0.73	0.75	
	Because of much fat, Korean restaurant' foods are harmful to the health.	2.93±0.19	0.78	0.69	
	Korean restaurant's foods are the cause of adult diseases or fatness.	2.45±0.77	0.71	0.71	
Financial risk	Due to lack of personal expenses, I worry about payment at restaurant.	4.33±0.07	0.72	0.70	0.76
	Food's price is generally more expensive than other restaurant.	4.25±0.25	0.74	0.65	
	Beverage's price is generally more expensive than other restaurant.	4.51±0.31	0.71	0.73	
	I will control myself to use family restaurant for money problem.	4.03±0.02	0.73	0.71	
Time risk	Food's service speed is slow.	4.37±0.044	0.70	0.70	0.74
	It's long waiting time at this restaurant.	0.10±0.64	0.74	0.73	
	I worry about distance to family restaurant is too long.	4.42±0.25	0.73	0.72	
	Speediness of complaint treatment is slow.	4.27±0.08	0.78	0.74	
Perfor- mance risk	Menu and actual food were often different.	4.07±0.24	0.74	0.74	0.73
	Because of insufficient quantity, I felt expensive food's price.	4.29±0.31	0.71	0.71	
	On food's remaining, I felt regrettable using res- taurant.	4.32±0.22	0.74	0.70	
	Contrary to my expectation, menu and service were not perfect.	4.11±0.09	0.70	0.69	
Psycholo- gical risk	Because of employee's unkindness, I felt angry.	3.99±0.65	0.70	0.76	0.71
	Because food isn't suit my taste, I felt unhappy.	4.23±0.02	0.74	0.74	
	Because of employee's over-kindness, I felt fretful.	4.27±0.21	0.74	0.70	
	Because of confused atmosphere, I felt unpleasant.	4.08±0.33	0.77	0.87	
Social risk	If using Korean restaurant, I feel that my colleagues remind me of a boaster.	2.10±0.32	0.73	0.73	0.63
	If using Korean restaurant, I feel that my colleagues remind me of a person with spend-thrift habits.	2.12±0.91	0.73	0.71	
	If using Korean restaurant, I feel that my colleagues remind me of a person without sense of economy.	2.30±0.42	0.69	0.79	
	If using Korean restaurant, I feel that my colleagues remind me of a unsubstantial person.	2.22±0.36	0.80	0.75	
Kaiser-Meyer-Olkin coefficient=0.77, Bartlett's $\chi^2=357.24(p=0.000)$					

number of Bartlett's χ^2 was 227.93 ($p=0.000$). It means that correlation of each factor's variables is significant statistically. And the number of Cronbach's α appeared to be over 0.6. It means suitable reliability of divided factors (e.g., internal environment=0.75, external environment=0.71, the other environment=0.65).

And according to the results of factor analysis about risk perception, the number of Kaiser-Meyer-Olkin (0.77) appeared to be suitable for factor analysis. the number of Bartlett's χ^2 was 357.24 ($p=0.000$). It means that correlation of each factor's variables is significant statistically. And the number of Cronbach's α appeared to be over 0.6. It means suitable reliability of divided factors (e.g., physical risk=0.81, financial risk=0.76, time risk=0.74, performance risk=0.73, psychological risk=0.71, social risk=0.63). Especially, because all means of social risk's valuables had low points under 3.0, we removed this factor from the last analysis. This result means that Korean foods have the role of health food diet made by the innovative cooking methods without hazardous elements for health [17,23,27]. Therefore, customers at Korean restaurant seem to regard menus as the low-fat health food without adults diseases and well food for diet control.

The Influence of Physical Environment on Risk Perception

In order to research the influence of physical environment on perceived risk, we performed the multi-regression analysis. The results were as following (see Figure 2 and Table 6).

At first, internal environment had the most negative (-) influence on time risk ($B=-0.521, \beta=-0.472, t=-7.645, p<0.001$), financial risk ($B=-0.232, \beta=-0.257, t=-4.997, p<0.001$) and psychological risk ($B=-0.342, \beta=-0.299, t=-4.615, p<0.001$). But it didn't affected significantly physical risk ($t=1.810, p=0.165$) and performance risk ($t=1.821, p=0.170$). The time to purchase foods and service at restaurant had significant influence on customer's purchasing decision and their satisfaction [3,21]. And they consider the time as money. Especially the time to wait at the restaurant creates perception of the time risk [27]. In the purchasing on the internet line, financial and performance risk proved to have significant influence on the customer's satisfaction [3,15,21]. Therefore, Korean restaurants needs to ameliorate variables of internal environment (e.g., condition of smoking room, playing room for children, feeding room, waiting sector and restroom). Hypothesis 1 was partially supported.

Buy the way external environment had negative (-) effects on time risk ($B=-0.198, \beta=-0.184, t=-2.795, p<0.05$) and psychological risk ($B=-0.229, \beta=-0.231, t=-2.788, p<0.05$). But it didn't affected significantly physical risk ($t=1.453, p=0.271$), financial risk ($t=$

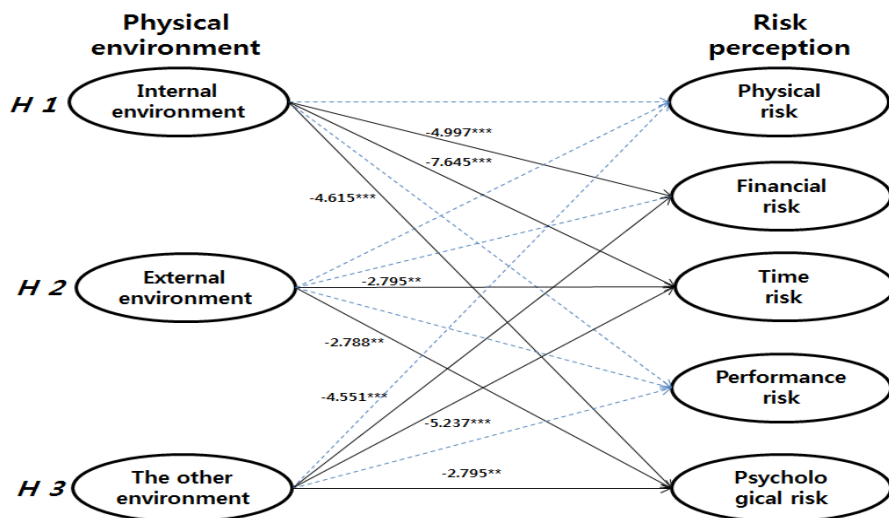


Figure 2. Diagram of multi-regression analysis.

Table 6. Result of multi regression from physical environment to risk perception

Result P.E.	Perceived risk	Non standardization coefficient		Standardization coefficient	t	p
		B	Standard error	β		
Internal environment	Physical risk	0.130	0.021	0.117	1.810	0.165
	Financial risk	-0.232	0.034	-0.257	-4.997***	0.000
	Time risk	-0.521	0.171	-0.472	-7.645***	0.000
	Performance risk	0.131	0.207	0.115	1.821	0.170
	Psychological risk	-0.342	0.078	-0.299	-4.615***	0.000
<i>R</i> ² =0.473, Adjusted <i>R</i> ² =0.452, <i>F</i> =32.145, (<i>p</i> <0.05*, 0.01**, 0.001***)						
External environment	Physical risk	0.086	0.013	0.077	1.453	0.271
	Financial risk	-0.149	0.751	-0.151	-1.933	0.061
	Time risk	-0.198	0.032	-0.184	-2.795**	0.006
	Performance risk	0.059	0.101	0.057	1.041	0.313
	Psychological risk	-0.229	0.088	-0.231	-2.788**	0.006
<i>R</i> ² =0.464, Adjusted <i>R</i> ² =0.447, <i>F</i> =28.342, (<i>p</i> <0.05*, 0.01**, 0.001***)						
The other environment	Physical risk	0.128	0.044	0.121	1.812	0.168
	Financial risk	-0.342	0.052	-0.299	-4.551***	0.000
	Time risk	-0.245	0.102	-0.311	-5.237***	0.000
	Performance risk	-0.030	0.303	-0.297	-0.498	0.732
	Psychological risk	-0.198	0.025	-0.187	-2.795**	0.006
<i>R</i> ² =0.393, Adjusted <i>R</i> ² =0.381, <i>F</i> =22.597, (<i>p</i> <0.05*, 0.01**, 0.001***)						

-1.933, *p*=0.061) and performance risk (*t*=1.041, *p*=0.313). According to this results we could infer that external environment reduce the time risk and psychological risk [18] to visit Korean restaurant. Namely, it means that customers can feel less time and psychological risk through their perception of valuables (e.g., maintenance of parking lots & outdoor cookers, beauty of signboard, elegance of exterior decoration, establishment & easy identification of signage to restaurant) [13,27]. Therefore, Hypothesis 2 was partially supported.

At last, the other environment affected negatively (-) financial risk (*B*=-0.342, *β*=-0.299, *t*=-4.551, *p*<0.001), time risk (*B*=-0.245, *β*=-0.311, *t*=-5.237, *p*<0.001) and psychological risk (*B*=-0.198, *β*=-0.187, *t*=-2.795, *p*<0.05). But it didn't affected significantly physical risk (*t*=1.812, *p*=0.168) and performance risk (*t*=-0.498, *p*=0.732). Therefore, Hypothesis 3 was partially supported. As perception of risk is felt in

dividually different and intangible character of service, it is related to the uncertainty in the mental and psychological representation of service [9,11]. Meanwhile, regardless of whether the service or products have a physical presence or not, it is a theory that consumer who are unable to develop a mental representation of service or products will have difficulty evaluating them [5,21,26].

DISCUSSION AND CONCLUSIONS

Discussion of Findings

This study conducted the questionnaire survey of customers at franchise Korean restaurants in three cities (Pusan, Daejeon, Seoul), South Korea. And this research furnished theoretical and practical contributions to the service marketing and strategy literature. The results of this research provided partial support of influence physical environment on risk

perception. The results of this study was as follows.

At first, factor analysis was done for the purpose of this sample's reliability and validity. KMO (0.83) and Bartlett's χ^2 (227.93, $p=0.000$) of physical environment were appeared to be suitable for factor analysis. And Cronbach's α (over 0.6) appeared to be suitable reliability of divided factors.

In the second place, KMO (0.77) and Bartlett's χ^2 (357.24, $p=0.000$) of risk perception were appeared to be suitable for factor analysis. And Cronbach's α (over 0.6) appeared to be suitable reliability of divided factors too.

In the third place, in order to research the influence of physical environment on the risk perception, we performed the multi-regression analysis. According to the result, internal environment had the negative (-) influence on financial risk ($p<0.001$), time risk ($p<0.001$) and psychological risk ($p<0.001$). By the way external environment had negative (-) effects on time risk ($p<0.05$) and psychological risk ($p<0.05$). At last, the other environment affected negatively (-) financial risk ($p<0.001$), time risk ($p<0.001$) and psychological risk ($p<0.05$). Therefore, each hypothesis 1, 2 and 3 were partially supported.

Implications

The followings were practical application. This research confirmed a significant strong effect of physical environment on the risk perception partially. But all three factors of 'physical environment' didn't affected significantly physical and performance risk. This results means that three factors may not be efficient on reduction of customer's physical and performance risk. According to the result (see 11 page, factor analysis of risk perception), customers were connoted to feel little hazardous risk to eat Korean foods on account of getting low mean points under 3. And it means that Korean foods are regarded as healthy foods without disease of adult people too [23].

In the second place, performance risk was presented by higher mean points than 4. But physical environment didn't negatively influence on the performance risk. This means that customers feel high risk perception on occasion of the followings (menu and actual food were often different; because of insufficient quantity, I felt expensive food's price; on

food's remaining, I felt regrettable using restaurant; contrary to my expectation, menu and service were not perfect). Therefore, Korean restaurants need to manage effectively next items like as the same foods with menu, selection of suitable price according to the food's quantity and perfection about foods and service beside physical environment's variables.

The previous research presented the confirmation that creating strong mental representations and specific definitions of the products were critical to the making tangibility of services. Namely, it means that physical intangibility emerged as the least important dimension of overall intangibility, with significant impact emerging for goods. And customers had more difficulty evaluating physical intangibility of service than goods. Therefore, Korean restaurants need to have practical and entire improvement about these variables. As another way to reduce risk perception, the internet is proposed vehicle to reduce risk because it allows the consumer to access more information to identify more alternatives and to better evaluate these alternatives. And there are the methods like as strengthening the brand loyalty, obtaining a warranty and guarantee on the product and service, money back offers, endorsements, liberal return policies of defective merchandise.

Limitations and Future Research

The first limitation of this study was the differences of research's results due to the season. In this research beforehand-question was executed in December (winter), 2014 years. But second real question was done in July (summer), 2015 years. Namely, some differences of research's results between December and July are expected (originated from kinds of main Korean foods, weather, outdoor's temperature, customer's favorite foods by season and etc). Therefore, it needs to research the comparative analysis of results among 4 seasons in the future research.

Because of limited area collecting questionnaire as three cities. It means that this research may not be evaluated as the study for whole South Korea. Therefore, this study hopes to perform at various cities and areas in the future research.

REFERENCES

- [1] Bae JH, Hong YT (2012). ホテルレストランの物理的な環境による肯定行動意圖の國際比較研究: 韓・日間比較を中心に. *Korean J Hotel & Tourism Research* 14(3):201-212.
- [2] Baker J (1994). The role of the environment in marketing service : the consumer perspective, in the service challenge. *American Marketing Association*. pp 328-339.
- [3] Boris S, Aleksandra PK, Damijan M (2004). The relationships among perceived quality, perceived risk and perceived product value. *The Journal of Product and Brand Management* 13(23):156-167.
- [4] Dowling GR, Staelin R (1994). A model of perceived risk and intended risk handling activity. *Journal of Consumer Research* 21(June):119-134.
- [5] Jung HS, Yoon HH (2015). The effects of consumer's corporate association on self-image congruence, and satisfaction in food company: moderating role of consumer's trust. *Culinary Science & Hospitality Research* 21(5):1-13.
- [6] Kim DJ, Park OS (2011). Impacts of fast food restaurant's physical environment on customer satisfaction and return visit. *Journal of Tourism Administration Research* 4(49):10-21.
- [7] Kim HJ (2014). Are physical environments, service quality, and menu in coffee shop influencing overall satisfaction of college students? *Culinary Science & Hospitality Research* 20(5):124-129.
- [8] Kim HS, Yoon SM (2011). A study on relationships between physical environment, store image and store loyalty. *Journal of Tourism Administration Research* 4(57):141-166.
- [9] Klerck D, Sweeney JC (2007). The effect of knowledge types on consumer-perceived risk and adoption of genetically modified foods. *Psychology & Marketing* 24(2):314-325.
- [10] Laroche M, Gorcon HGM, Jasmin B, Zhiyong Y (2004). Exploring how intangibility affects perceived risk. *Journal of Service Research May* 6(4): 373-389.
- [11] Lee SH (2015). Servicescape and customer behavioral intention: the impact of servicescape on customer emotion responses towards customer satisfaction and behavioral intention in local coffee shops in Kuala Lumpur, Malaysia. *Culinary Science & Hospitality Research* 21(5): 129-138.
- [12] Lee SI (2010). A study on the effect of physical environment on the customer satisfaction, revisit intention of food service company. *J Hotel & Resort Research* 9(1):85-99.
- [13] Lee SM (2014). The impact of experience value on brand image, satisfaction, and customer loyalty in context of full-service restaurants: moderating effect of gender. *Culinary Science & Hospitality Research* 20(5):93-100.
- [14] Lee YH, Jang RG, Back MS, Pra HW, Won CS (2013). The effect of physical environment of food service industry upon customers' emotions, satisfaction and revisit intention: Focused on buffet restaurant. *Korean J Hotel & Tourism Research* 15(1):1-18.
- [15] Lee YJ, Cho JH, Kim BY (2013). The effects of perceived risk and physical environments of theme parks on customer satisfaction. *J. of Tourism Research* 28(2):183-200.
- [16] Lovelock C, Lauren W (2002). Principles of Service Marketing and Management. Pearson Education International Inc. p 13.
- [17] Oh CR, No JK, Kim MS (2014). A study of Korean elderly on the preference of food according to body composition. *Culinary Science & Hospitality Research* 20(5):84-92.
- [18] Peter JP, Ryan MJ (1976). An investigation of perceived risk at the brand level. *Journal of Marketing Research* 13(2):184-188.
- [19] Ping D, Noel YM (2013). Servicescape elements, customer predispositions and service experience: The case of theme park visitors. *Tourism Management* 36:541-551.
- [20] Robson SKA (1999). Turning the table : the psychology of design for high volume restaurants. *The Cornell Hotel and Restaurant Administration Quarterly* 40(3):541-551.
- [21] Shim SI, Lee Y (2011). Consumer's perceived risk reduction by 3D virtual model. *International Journal of Retail & Distribution Management* 39 (12):107-118.
- [22] Snoj B, Korda AP, Mumel D (2003). The relationships among perceived quality, perceived risk and perceived product value. *The J. Product & Brand Management* 13(23):156-167.
- [23] Song JE (2014). A survey on the recognition and the preference of *Bibimbab* with students in

- Bayreuther. Germany. *J Korean Soc Food Cult* 29(4):307-313.
- [24] Williams JG (1999). The impact of employee performance cues on guest loyalty, perceived value and service quality. *The Service Industries J.* July (19)3:97-118.
- [25] Woodruff RB, Sarah FG (1996). *Know Your Customer : New Perspectives on Customer Value and Satisfaction*. Cambridge, MA Blackwell Publishing, p 127.
- [26] Yim SB (2012). The effect of a Italy restaurant's physical environment on the emotional responses and purchasing intention. *Food Service Management* 15(6):93-115.
- [27] Yoon TH (2014). The influence of tangible clue of raw-fish restaurants on consumers' emotional responses & repurchasing behavior in east-northern area of Kangwon-province. *Korean J Food Cookery Sci* 29(5):533-541.
- [28] Zeithaml VA, Bitner MJ, Gremler DD (2011). *Services Marketing*. McGraw. Hills 4th. p25.

Received: 12 JAN, 2016

Revised: 20 JAN, 2016

Accepted: 21 JAN, 2016