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A Study on the Influence of Eco-friendly Agricultural Products on Customer Satisfaction and Behavior Intention in Hotel Chinese Restaurants

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Abstract

The purpose of the study is to analyze the effects of customer satisfaction verses eco-friendly agricultural products (ingredients) awareness factors in luxury hotel Chinese restaurants on hotel image and customer loyalty (repurchase intention). To analyze what kind of effects of customer satisfaction verses eco-friendly agricultural products (ingredients) awareness factors in Chinese restaurants have on hotel image and behavior intention (loyalty), the study identified eco-friendly ingredients awareness factors. The study aims to suggest implications on service strategies and marketing strategies in luxury hotel Chinese restaurants based on the influence of customer satisfaction on hotel image and behavior intention (loyalty) using the identified factors.

Key words: *Eco-friendly agricultural product; customer satisfaction; behavior intention; eco-friendly agri-food*

1. Introduction

Recently, due to environmental changes in global hotel industry, the interest about hotel service and eco-friendly foods is increasing. However, fronting pursuit of profit, hotel companies are generally remaining inadequate in customer satisfaction regarding hotel service quality and eco-friendly ingredients. Eco-friendly agriculture promoted by the government as a new source of agricultural and farm household profit has been actively introduced in developed countries and it has seen large growth in the food processing industry using it as ingredients [1]. In hotel businesses, according to quality of products and services as well as the role of employees in the process of provision, evaluation on the overall service of the company is done by the customer. Especially in hotel businesses, because dependency on human services by employees and eco-friendly ingredients is greater than other industries, to have employees provide customer focused satisfactory service, there is need for prioritizing communication satisfaction between employees [2].

For systems to acquire customer trust to be established and executed and to encourage consumers to trust the safety of eco-friendly agricultural products and processed products to consume it continuously, existing offset of balance of supply and demand of eco-friendly agricultural products through price must be forfeited and actively promote consumers to fixedly prefer certain products and to continuously purchase them [5]. For investigation of empirical analysis, customers using luxury hotel Chinese restaurants in Seoul, Korea and

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questionnaires on customers were conducted. To confirm the reliability and validity of basic analysis of survey data and survey questions, reliability analysis and confirmatory factor analysis was conducted in empirical analysis and to analyze the structural suitability of the study model, statistical package program SPSS 18.0 for Windows was used to verify frequency analysis, validity and reliability analysis, correlation analysis, and multiple regression analysis.

2. Theoretical background

2.1 Concept and characteristics of eco-friendly agricultural products

The term “eco-friendly” is often used in the perspective of eco-friendly land and housing development and it is used interchangeably with terms such as environmentally friendly, nature friendly, resource saving, sustainable, eco-, and green. Framework Act on Environmental Policy Article 3 regulations on the environment categorizes ‘natural environment’ and ‘living environment’. Natural environment is a state of nature that includes underground, surface, sea, all life on earth and the surrounding nonliving things which include ecosystems and natural scenery. Living environment refers to environments related to the daily life of people such as air, water, waste, noise, vibration, odor, and sunshine [6].

Because harmful substances are not used when growing eco-friendly agricultural products, people can consume it without concerns. It has superior fragrance and taste, has high nutrient content, and freshness is prolonged due to lack of artificial additives. Eco-friendly agricultural products can be largely divided 5 types as given below:

- ① Organic produce: It is grown without synthetic organic pesticides or chemical fertilizers.
- ② Organic livestock: It is produced using organic feed without the use of veterinary medicine such as antibiotics and antimicrobials.
- ③ Pesticide-free agricultural products: It is grown without the use of synthetic organic pesticides and half the recommended application rate of chemical pesticides.
- ④ Antibiotic-free livestock products: It is grown with antibiotic-free feed without the use of veterinary medicine such as antibiotics and antimicrobials.
- ⑤ Low pesticide agricultural products: It is grown with less than half the application rate of chemical pesticides, less than half the spray rate of pesticide, and without the use of herbicides [7].

2.2. Concept and characteristics of eco-friendly agri-food

Eco-friendly agri-food are priced higher than conventional agri-foods due to the reason of being eco-friendly and consumers willingly pay extra. However, because quality cannot be confirmed through the exterior and it is also difficult through consumption, there is uncertainty about quality. Eco-friendly agri-food is also a type food and a type of agricultural related product. Eco-friendly agri-foods share unique food properties distinguished from general goods and unique properties of agricultural products. Once habituated, personal taste standards high property of not easily being changed. Due to this habituation in foods, once a brand is established, there is a problem that the superiority strengthens further. This characteristic, in customer loyalty or brand loyalty creation, can overcome low involvement characteristics of foods and increase potential of loyalty. Eco-friendly agri-foods fundamentally share agricultural product characteristics such as instability of prices and relative low level of prices. Also agricultural products have the characteristic of low elasticity in supply, demand, and income, but it also has the characteristics that unlike other consumer products, the ratio in total expenditure decreases with increase in income levels.

2.3. Concept and role of hotel image

It refers to the attitude of customers on the hotel recognized in the dimension of personality of customers. Customer attitude systemize his/her image creation about hotel businesses and it becomes the premise of hotel

preference and selection when customers purchase various products or services of hotels [8]. Because hotel companies are sensitive to trends, imitation of service is easy, and has high human dependence, there needs to be unique and attractive image creation differentiated from other hotels to acquire customers and create demand. This is because in hotel demand creation, psychological aspect called image has decisive influence on product sales. Thus, hotel image can be described as the overall impression made of psychological characteristics of the hotel and psychological characteristics of the customers and this overall combination of environmental variables, customer property variables, and hotel property variables can be considered the overall image the customer perceives of a certain hotel [9]. The image of a hotel company can be considered a concept learned over long term by customers and because the target market itself helps the creation of hotel image, hotel marketers need to project an appropriate image [10].

Competition between hotel companies are becoming fierce and currently where efforts for customer creation is being done in multiple angles, the importance of the role of hotel complete image is increasing. To explore the detailed role of the hotel company image, it is as follows: First, it influences hotel selection. Thus, selection of hotels in customers are largely decided by the image of the hotel. Second, it influences hotel product purchase [11]. Hotel company image has a role of pre-selling that influences purchase intention decision when consumers buy products and becomes a method of sales promotion [12]. Here, according to the degree of image creation, there is positive or negative influence. Third, it is used as a means of differentiation in hotels. Because hotel companies are easy to imitate, new image creation involving strategy of differentiation from other hotel companies influence customer creation. Fourth, it facilitates securing funding and human resources. Image such as reliability, stability, and development potential has significant influence on securing funding and human resources. Therefore, according to improvement of hotel company image, number of applicants during recruitment increases and it raises stock prices to facilitate securement of human resources and funding [13]. Fifth, it influences improvement of morale in employees and correspondents. Not only consumers but also employees and correspondents have corporate image. Therefore, if a hotel company has a satisfactory image, morale in employees and correspondents increase and it activates corporate and sales activities [14]. Sixth, it is utilized as a means to gain social support. When an image of a hotel company is positive, general public opinion is positively formed and active social support can be obtained in various corporate activities. To effectively achieve this role of hotel companies, it is important to create favorable relations between the hotel company and environment. To figure out the status of relation and to improve the relation into a favorable relation, to solve the problem of which plans to strengthen, the role of hotel company image can only be highlighted.

2.4. Relation between customer satisfaction and behavior intention

The actual purpose of customer satisfaction is not to confirm customers as simple short term consumers of and services but to realize them as the subject of continuous relation maintenance, exchanging corporate development and customer satisfaction, to establish and strengthen sincere bonds. If customers are only considered simply as subjects of increasing corporate profit and there is no growth with the customers, in the end the customers will not recognize the efforts of the company. Customer satisfaction related studies focus on understanding customer satisfaction outcome variables repurchase intention, word-of-mouth effect, and brand switching behavior. In previous studies regarding influence of customer satisfaction on post sale attitude, repurchase intention, or brand switching, it was found that there was positive relation between customer satisfaction and repurchase intentions.

Oliver, R. L. researched about the relation between inconsistency with expectation, satisfaction and attitude, and purchase intention [15]. In the results of pathway analysis, it was found that customer satisfaction had influence on post purchase attitude and that this attitude had continuous influence on repurchase intention. Thus, it means that level of satisfaction in customers increase repurchase intentions and that customer satisfaction is a factor influencing repurchase intentions and brand switching intentions.

3. Analysis results

The frequency representing demographic characteristics were attempted through cross analysis so that the sample extracted for the study can estimate the representativeness of the population. Among demographic characteristics in people using luxury hotels in Seoul, Korea, among 296 people, 166 (56.5%) were men and 126 (42.9%) were women, and 2 (0.7%) did not respond. Next, for marital status, among 289 people, 86 (29.3%) were single, 203 (69.0%) were married, and 5 (1.7%) did not respond. In education, majority were vocational college graduates with 128 (43.5%), 84 (28.6%) were university graduates, and in occupation, 85 (28.9%) were self-employed and 83 (28.2%) were office workers. The distribution of age was in the order of 70 (23.8%) between the ages of 46~55, 63 (21.4%) over the age of 56, and then between the ages of 26~35. Also, number of restaurant visit was investigated that 160 (54.4%) visited 1~2 times and 81 (27.6%) visited 3~4 times. The average monthly income of respondents was in the order of 68 (23.1%) under 2 million KRW, 41 (13.9%) under 4 million KRW, 37 (12.6%) under 5 million KRW, and 35 (11.9%) under 3 million KRW.

3.1. Verification of validity and reliability of variables

Before testing the hypothesis of the study, first, factor analysis and reliability analysis was conducted on external validity and internal consistency of measurement questions. In factor analysis, if KMO value is over 0.5, it is appropriate for conducting factor analysis. In reliability analysis, if Cronbach's α coefficient was over 0.6, it was considered that it had high reliability.

In the factor analysis results about eco-friendly ingredient perception, the eigenvalue was 3.35 and dispersion (%) was 66.97% which was in a single component where there was high convergent validity and for reliability, Cronbach's alpha was 0.874 which was over 0.6, which showed high reliability. Also in convergent validity and reliability on eco-friendly agricultural products brand, factor loading was over 0.5 composed of a single factor and reliability coefficient Cronbach's alpha was 0.886 which was very high. Third, results of convergent validity and reliability on eco-friendly agricultural product trust where each 0.912 and 0.796 which showed high validity and reliability. Fourth, it was investigated that eco-friendly agricultural product distribution, eco-friendly agricultural products safety, restaurant customer satisfaction, image, and loyalty had high validity and reliability and it is shown in Table 1.

Table 1. Validity and reliability analysis

Factor Analysis									Reliability Analysis
Classification	Component	Component	Component	Component	Component	Component	Component	Component	
Awareness 2	.870								0.874
Awareness 4	.853								
Awareness 3	.832								
Awareness 1	.813								
Awareness 5	.715								
Brand 2		.867							0.886
Brand 4		.860							
Brand 3		.844							
Brand 5		.798							
Brand 1		.777							
Reliability 2			.912						0.796
Reliability 1			.912						

Distribution 3					.861				0.877
Distribution 4					.840				
Distribution 2					.831				
Distribution 1					.789				
Distribution 5					.777				
Safety 1					.896				0.857
Safety 2					.879				
Safety 3					.871				
Satisfaction 3					.880				0.867
Satisfaction 1					.847				
Satisfaction 2					.842				
Satisfaction 4					.816				
Image 2					.910				0.883
Image 1					.908				
Image 3					.884				
Loyalty 3					.875				0.874
Loyalty 1					.875				
Loyalty 2					.861				
Loyalty 4					.801				
Eigen Value	3.35	3.44	1.66	3.37	2.33	2.87	2.43	2.96	
Dispersion %	66.97	68.87	83.09	67.31	77.79	71.67	81.10	72.87	
KMO	0.863	0.846	0.5	0.817	0.731	0.801	0.741	0.750	

3.2. Analysis result of hypothesis investigation

Testing of ‘eco-friendly agricultural products (ingredients) awareness factor will have positive influence on customer satisfaction’ conducted regression analysis and <Table 2> is the regression analysis of awareness factors on customer satisfaction.

Table 2. The result of regression analysis of awareness factors on customer satisfaction

Independent Variables		Non-standardized Coefficients		Standardized Coefficients	t	Sig.	Multicollinearity	
		B	Standard Errors				Tolerance	VIF
Constant		.345	.112		3.071	.002		
Awareness Factors	Quality Factors	.093	.055	.088	1.684	.093	.333	2.999
	Brand Factors	.036	.059	.036	.606	.545	.261	3.835
	Reliability Factors	.085	.045	.094	1.863	.064	.359	2.787
	Distribution Factors	.298	.056	.292	5.297	.000	.300	3.334
	Safety Factors	.406	.047	.448	8.702	.000	.344	2.907

Dependent Values = Customers Satisfaction, R²=.751, adj R²=.746 F=164.97, sig=.000

In 'eco-friendly agricultural products (ingredients) quality factor will have positive influence on customer satisfaction', t-value was 1.68 and significance probability was 0.093 and although it is dismissed at significance level 0.05, it was found to be significant at significance level 0.1. Multicollinearity investigates the existence of relation between independent variables. Confirmation about multicollinearity is investigated with tolerance and VIF value and if tolerance is under 0.1 or if VIF value is over 10, existence of multicollinearity is suspected. Therefore, because tolerance values of all variables was under 0.1 and VIF values were also under 10, there was no multicollinearity. In 'brand factor will have positive influence on customer satisfaction', t-value was 0.606 and significance probability was 0.545 and it was dismissed at significance level 0.05. It is thought that business people that operate Chinese restaurants make purchases without considering ingredient brands. In 'trust factor will have positive influence on customer satisfaction', t-value was 1.863 and significance probability was 0.064 and although it is dismissed at significance level 0.05, at significance level 0.1, it was found to be significant. In 'distribution service factor will have positive influence on customer satisfaction', t-value was 5.297 and significance probability was 0.000 and it was adopted at significance level 0.05. In 'safety factor will have positive influence on customer satisfaction', t-value was 8.70 and significance probability was 0.000, and it was found to be significant at significance level 0.05.

Regression analysis was conducted for testing 'eco-friendly agricultural products (ingredients) awareness factor will have positive influence on hotel image' and <Table 3> is the result of regression analysis of awareness factors on image.

Table 3. The result of regression analysis of awareness factors on image

Independent Variables		Non-standardized Coefficients		Standardized Coefficients	t	Sig.	Multicollinearity	
		B	Standard Errors				Tolerance	VIF
Awareness Factors	Constant	.308	.177		1.74	.083		
	Quality Factors	.336	.088	.269	3.82	.000	.330	3.03
	Brand Factors	-.148	.093	-.126	-1.59	.113	.261	3.83
	Reliability Factors	.020	.072	.019	.283	.778	.359	2.79
	Distribution Factors	.366	.089	.305	4.11	.000	.298	3.35
	Safety Factors	.370	.074	.345	4.99	.000	.344	2.91
Dependent Variables = Images, $R^2=.552$, adj $R^2=.544$ $F=67.306$, $sig=.000$								

In 'eco-friendly agricultural products (ingredients) quality will have positive influence on image', t-value was 3.82 and significance probability was 0.00 and it was adopted at significance level 0.05. Multicollinearity investigates the existence of relation between independent variables. Confirmation about multicollinearity is investigated with tolerance and VIF value and if tolerance is under 0.1 or if VIF value is over 10, existence of multicollinearity is suspected. Therefore, because tolerance values of all variables was under 0.1 and VIF values were also under 10, there was no multicollinearity. In 'brand will have positive influence on image', t-value was -1.59 and significance probability was 0.11 and it was dismissed at significance level 0.05. In 'trust factor will have positive influence on hotel image', t-value was 0.283 and significance probability was 0.78 and it was dismissed at significance level 0.05. In 'distribution service will have positive influence on image', t-value was 4.11 and significance probability was 0.00, and it was adopted at significance level 0.05. In 'safety will have positive influence on image', t-value was 4.99 and significance probability was 0.00 and it was adopted at significance level 0.05.

Regression analysis was conducted for testing 'eco-friendly agricultural products (ingredients) awareness factor will have positive influence on behavior intention' and <Table 4> is the result of regression analysis of awareness factors on behavior intention.

Table 4. The result of regression analysis of awareness factors on behavior intention

Independent Variables		Non-standardized Coefficients		Standardized Coefficients	t	Sig.	Multicollinearity	
		B	Standard Errors				Tolerance	VIF
Awareness Factors	Constant	.80	.16		5.07	.00		
	Quality Factors	.21	.08	.19	2.67	.01	.33	3.02
	Brand Factors	-.08	.08	-.08	-1.02	.31	.26	3.84
	Reliability Factors	.04	.06	.04	.56	.58	.36	2.78
	Distribution Factors	.31	.08	.30	3.98	.00	.30	3.34
	Safety Factors	.31	.07	.34	4.74	.00	.35	2.90
Dependent Variables = Behavior Intention, R ² =.518, adj R ² =.509 F=59.304, sig=.000								

In ‘eco-friendly agricultural products (ingredients) quality factor will have positive influence on behavior intention’, t-value was 2.67 and significance probability was 0.01 and it was adopted at significance level 0.05. Confirmation about multicollinearity is investigated with tolerance and VIF value and if tolerance is under 0.1 or if VIF value is over 10, existence of multicollinearity is suspected. Therefore, because tolerance values of all variables was under 0.1 and VIF values were also under 10, there was no multicollinearity. In ‘brand factor will have positive influence on behavior intention’, t-value was -1.02 and significance probability was 0.31 and it was dismissed at significance level 0.05. In ‘trust factor will have influence on behavior intention’, t-value was 0.56 and significance probability was 0.58 and it was dismissed at significance level 0.05. In ‘distribution factor will have positive influence on behavior intention’, t-value was 3.98 and significance probability was 0.00 and it was adopted at significance level 0.05.

4. Conclusion

Recently hotels are putting overall effort into provision of quality products and services with nonvisual value in conjunction with tangible and intangible quality service rather than simple sales of food and beverage products to customers. This shows that consumption value increases interest and use of premium food service companies as well as creates the perception that hotel restaurants are overall places where luxury culture can be enjoyed compared to general restaurants and that customers recognize hotels as an appropriate place of purchase that can satisfy their consumption needs and expected value. While the ratio of sales of foods and beverages at hotels continuously increase and the importance is emphasized, there is lack of studies empirically identifying what consumption values customers have, how that consumption value influence their satisfaction, and ultimately, if it leads to revisits. The purpose of the study is to analyze what influence customer satisfaction according to eco-friendly agricultural products (ingredients) awareness factors in urban Seoul luxury hotel Chinese restaurants has on hotel image and customer behavior intention (repurchase intention).

In the influence of the perception of eco-friendly agricultural products (ingredients) in luxury hotels on customer satisfaction, hotel image, and behavior intention, policy changes are done according to hotel business strategies and these policy changes influence the management performance of hotel companies. While the interest about hotel service and eco-friendly foods is increasing due to changes in the environment of the hotel industry, fronting pursuit of profit, hotel companies are generally remaining inadequate in customer satisfaction regarding hotel service quality and eco-friendly ingredients. The purpose of the study was to empirically analyze what kind of influence customer satisfaction according to eco-friendly agricultural products (ingredients) awareness factors of luxury hotel Chinese restaurants using eco-friendly agricultural products had on hotel image and customer loyalty (repurchase intention) to identify the effects based on analyze results and

to provide basic data in planning and establishing business strategy, service strategy, and marketing strategy in luxury hotel Chinese restaurants. Also it is considered that it will be most ideal if more systematic subsequent studies are continuously progressed to identify the causal relationship between customer satisfaction, hotel image, and customer behavior intention (loyalty intention) according to eco-friendly agricultural products of luxury hotel Chinese restaurants through development of scientific and objective measurement variables.

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