

The Evaluation of Cruiser Tourist Preference -The Case of Pan - Yellow Sea Port in Korea-

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크루즈 관광객 선호도 평가 - 한국의 환황해권항의 사례-

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Abstract

This paper is to suggest the preference list of cruise tourists at Pan Yellow Sea Port. This study conducted the survey of cruise tourists calling at Incheon port for the cruise tourists' needs and performed interviews of staff of cruise liners with their sales officers in Shanghai. The evaluation for the preference of the cruise tourists were conducted by modeling a formula in order to rank the preference. This paper assumes that the preference is mainly bounded on stay time, which can be classified into under 10 hours, under 10~24 hours, and over 24 hours. After validating the model accuracy, we can estimate tourists' preference in different conditions. Under 10 hours-stay at the port, the shopping site, food sites, sightseeing sites, and cultural tour sites are preferred. Second, between 10~24 hour stay, the rank is changed a little like as duty free shop, korean traditional food, department store, road shopping, road sight, drama film site, casino, historical remains, ancient place, traditional tower. Through the research, we find the tourists like to enjoy casino games through the night. Third, over one day of stay, tourist enjoy experience tours, like water parks, amusement parks and so on. This paper will contribute to design the product mix of tourists at calling port using preference evaluation model. According to tourist condition like stay time, gender, type of companion, age etc., preference evaluation model is able to be adjusted with the model.

Key words : Cruiser tourist preference, Cruiser vitalization strategy, Cruiser tourist evaluation model

I . Introduction

Cruiser visitors to Korea is recorded to be 2.26 million and are composed of tourist of 748,947 tourists and crew of 296,929 in 2015. Cruise ships generally call at Jeju, Busan, and Incheon ports. This study aims to evaluate the preference of cruise tourist based on an evaluation model by choosing

pan Yellow-sea Port including Incheon Port. First content of this study confirms the factors which decide the calling of the cruise by investigating the cruise tourists' needs of nearby vital ports and deciding factors of cruise liners for calling. After suggesting an evaluation model of tourist preference, the authors try to find the factors within "A" group and also "B" group which enable the

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attraction of more tourists and cruise, calling. This study conducted survey of cruise tourists calling at Incheon port for the cruise tourists' needs and performed interviews of staff of cruise liners with their sales officers in Shanghai for the deciding factors of the port of calling.

II . Calling Number of Cruiser in Pan-Yellow Sea

According to the cruiser tourist information, the tourists calling at Korean ports by country were 666,834 Chinese (88.4%), 33,634 Japanese (4.5%), and 10,691 Americans (1.4%), 42,986 from other countries (5.7%).

The number of cruise ship callings and tourists drastically increased temporarily in 2011 because cruise ships heading for Japan changed their courses to Incheon temporarily due to Fukushima nuclear reactor accident in March, 2011. In 2012, their courses went back to normal, showing a decrease again. After the 150,000-ton 'Costa Victoria' started to call at Incheon port in 2013, the number of tourists is on the rapid increase due to successive calling of large cruise ships from all of the world.

<Table 1> Number of Cruiser Tourists and Calling Number in Pan-Yellow- Sea Port in Korea

	Number of Cruiser tourists and calling						
	'11	'12	'13	'14	'15	'16	CAGR
Number of Cruiser tourists	36,653	6,538	172,420	183,909	87,515	165,088	28.5%
Number of calling	31	8	95	92	53	62	12.2%

Source: Incheon Port Authority, 2017

Among the cruise tourists calling at Incheon port in 2013 and 2014, Chinese tourists consisted of 95% and 92% respectively.

III. Questionnaire Survey on Cruise Tourists

This study conducted questionnaire survey with the cruise tourists who visited Incheon Port in August, 2016 regarding their duration of stay, purpose of trip, type of companions accompanying them, shopping destination, and interested themes. Out of a total of 200 questionnaires distributed, 134 questionnaires were collected (67%).

<Table 2> Outline of Survey

	Contents
Survey Target	Calling Tourist at Incheon Port
Survey Area	Cruiser Ship Calling at Incheon Port
Sample Number	200
Return Ratio	67 % (134)
Question Contents	Stay Time, Purpose, Information Collection, Company Type, Budget, Shopping Place, Complaints, Interesting Subjects
Data Collecting Time	August, 7~ September 8 in 2016

As for the gender ratio of the collected 134 questionnaires, the number of females was 72 (54%) while the number of males was 62 (46%).

<Table 3> Gender of Respondents

Gender	Respondents	Ration
Male	62	46%
Female	72	54%
Sum	134	100%

As for the ages, 51 visitors were in the age of 20~29 (38%) with greatest number while 33 were

in the age of 30~39 (25%), 25 were in the age of 40~49 (18%), 21 in the age over 50 (16%) and 4 in the age of 10~19 (3%).

<Table 4> Age of Respondents

Age	Respondents	Ratio
10~19 years	4	3%
20~29 years	51	38%
30~39 years	33	25%
40~49 years	25	18%
Over 50 years	21	16%
Sum	134	100%

For the duration of stay for cruise calling, 88 tourists(66%) stay for 5~10 hours, 17 tourists (13%) stay for 10~24 hours, 15 tourists(11%) stay for less than 5 hours, 14 tourists(10%) stay for more than 24 hours and 90% of the total respondents stay for less than 24 hours.

<Table 5> Stay Time of Respondents

Stay Time	Respondents	Ratio
Below 5 hours	15	11%
Between 5~10 hours	88	66%
Between 10~24 hours	17	13%
Over 24 hours	14	10%
Sum	134	100%

For cruise ship tourists' companions, 43 were with spouses/boyfriends or girlfriends (32%), 38 tourists(28%) were with friends/companions, 22 tourists(16%) were with parents/children, 17 tourists(13%) were Alone, 8 tourists(6%) are with brothers or sisters and 6 tourists(5%) were with relatives.

<Table 6> Companions of Respondents

Type	Respondents	Ration
Alone	17	13%
Spouse	43	32%
Family(Parents & Children)	22	16%
Friends	38	28%
Relatives	6	5%
Brother & Sisters	8	6%
Sum	134	100%

As for the purpose of the cruise tour, 59 tourists (44%) support travel itself, 30 tourists (23%) culture, Sightseeing, and experience, 22 tourists (16%) harmony and friendship, and 16 tourists (12%) the rest and relaxation.

<Table 7> Purpose of Tour

Type	Respondents	Ratio
Rest and Relaxation.	16	12%
Cruising Experience	59	44%
Culture, Sightseeing, Experience	30	23%
Harmony and Friendship	22	16%
Others	7	5%
Sum	134	100%

As for cruise tourists' shopping places, 59 tourists favored duty-free shops (45%), 25 tourists(19%) favored department stores, 14 tourists (10%) favored traditional markets, 13 tourists(10%) favored the local products, 11 tourists(8%) enjoyed large supermarkets and 6 tourists(4%) souvenir shop and road shops.

For themes which cruise tourists are interested in

when visiting ports of call, 32 visitors were interested in traditional/historical locations (24%) followed by 28 interested in gourmandism (21%), 27 indicated interested in shopping in department store/duty free shops (20%), 13 interested in local product shopping in traditional stores (10%), 12 interested in theme parks/aquariums (9%) and 6 in museums/galleries (4%).

As for inconveniences in the port of call during cruise tourism, 41 tourists indicated inconvenience of communication (31%) followed by 25 tourists who indicated unsatisfactory food (19%), 17 tourists chose uninteresting tourist destinations/schedules (13%), 12 tourists indicated unsatisfactory shopping environment (9%), 10 tourists who indicated inconveniences with money exchange (7%) and 8 tourists marked burdensome travel expenses (6%).

As for considerations in purchasing cruise tourism products, 35 tourists came up with tourism programs (26%), 24 tourists(18%) started the price of cruise price, 17 tourists(13%) indicated with services and programs onboard, 12 tourists(9%) selected port of call and 11 tourists(8%) came up with convenience of entry and exit of national border.

This study also checked the problems and requests for Pan-Yellow Sea Port calls from cruise companies in August 2016.

① As there are no tourism products and tourist destinations around Pan-Yellow Sea region, most cruise tourists head to Seoul after they arrive at Incheon Port. Only when there are tourist attraction products such as large duty-free shops, facilities for cultural experiences and theme parks within 1 hours distance from Incheon port, half of tourists currently heading for Seoul can be accommodated around the region. Preferred courses was

Gyeongbok Palace, Namsan mountain, Myungdong and duty-free shops. Most tourists complained about shopping tourism.

② Immigration management was confirmed to be somewhat satisfactory as it takes 1 to 1.5 hours to handle 4,000 people's passport scanning quickly after tourists arrive by receiving prior information of the tourists on board.

③ For visa issuance, although group tourists are able to receive a visa conveniently at one time, this option is not available to individual tourists, causing their complaints.

④ Although cruise tourists complained about the short time for sightseeing with only 8 hours to do so, nothing is done to improve the situation since there is no room for improvement. This study finds that a long-term stay is impossible due to cheap prices of cruise tours, which make it difficult to develop new programs.

⑤ Although necessity for development of various experience programs demanded by tourists is recognized, there are widespread perceptions among travel agencies in Korea that it is difficult to establish plans other than shopping-centered programs to make both ends meet

IV. Deriving Preference Lists of Cruise Tourists

This study selected candidate group from preceding studies and assessed them. The list of literature is presented in <Table 8>.

According to preceding studies, the authors classified four subjects for cruiser strategy as follows:

① Improvement of tourism facilities and infrastructure facilities.

② Development of tourist products including
<Table 8> The Strategy for Increasing Cruiser Tourists

Source	Strategy
Ministry of Culture, Sports and Tourism(2013), "Plan for Vitalizations of Cruise Tourism", Korea Tourism Organization	- Sightseeing at traditional and historic sites - Shopping at Department Store and tax free shop, shopping
Korea Tourism Organization(2015) , 2014 Survey Report on Overseas Cruise Tourists"	-Accommodations, Process of Immigration and Public transit is ranked high
Ministry of Maritime Affairs and Fisheries, (2013), Measure of vitalizations for creation of job and promoting maritime new industry	- Modern terminals for cruiser ships - Marketing to cruise shipping companies. - Promoting national flag shipping companines - Training professional crew and man power of cruisers -Development of construction codes for cruisers
Consecutives number 291(2008), monthly issue, Maritime affair and fisheries	-Development of profit model and tour commodities -Maintenance international passenger terminals and propulsion of development -Attraction cruiser using international events -Foundation of squad organization -Promotion and establishing network for attracting cruisers
Tourism Knowledge Information System (2014), "A Study on Vitalization of Tourism and Programs for Cruise Ports of Call"	-Development of tour commodity -Attraction of international cruise events and reinforcement of cooperative marketing through networks -Development of new calling places and creation of new cruise demand

accommodation, shopping, well-being, experience,

entertainment, cultural and restaurant facilities while infrastructure facilities include transportation and wharf facilities.

③ Promotion can be classified into media promotion activities and promotion contents; promotions through media are promotion on pamphlets, mobile applications, magazines and TV while promotion contents consist of special discount products, tourism products, links with tourism services, experiential products, and cultural products.

④ Improvement of services includes interpretation, signboards, transportation, simplification of immigration procedures, tour guides, tourism information, and foreign exchange.

On view of preference of cruiser tourists, detailed preference of 44 items are derived shown in <Table 9>.

<Table 9> The Classification of Cruiser Tourists Preference

Class of Preference	Sub Classification of Preference
Sightseeing Tour	Beach, Hot spring , Tower, Road (Insa dong, etc.), Festival and Performance, Drama, Filming Location, Safari
Experience Tour	Rafting, Bunge jKump, Amusement park, Shoot, Cycling , Camping, Golf, Horseback, Fishing Pool, Jet Ski, Yacht, Sporting Event, Ferry tour, Water Park
Cultural tour	Art gallery, Museum
	Concert, Opera Historical Locations, Ancient Palace, Traditional Town, Castle
Entertainment Tour	Casino, Film, Game, Horse Racing
Food Tour	Fusion Food , Korean Traditional Food
Shopping Tour	Free Tax Shop, Department Store
	Traditional Market, Big Mart, Road Shop
Wellbeing Tour	Yoga Facility, Meditation Facilities, Healing forest, Health, Spa

V. Evaluation Model of Preference of Cruiser Tourists

In order to assess priority it is necessary to investigate cruise tourists' preferences in choosing the products. When arriving at a port of call, tourists visit famous tourist attractions, such as city tour, experiencing, cultural legacy, shopping centers, traditional food restaurants and wellness tour.

According to the questionnaire the shopping place is chosen by 48.4% tourists, culture tour place is 28.63%, food tour place is 9.5%, sightseeing tour place is 15.65%, experience tour site is 1.92% and entertainment tour site is 0.93%. This preference is estimated to be mainly dependent on several factors such as stay time, tour price, gender, company, etc. This paper focuses on stay time at calling port to handle the preference of tourists.

As a starting point of developing an evaluation model, it is necessary to set a matrix to decide the preference as follows:

<Table 10> Matrix Table for Evaluation Score

Class	Preference site	stay time		
		Under 10 hours	10~24 hours	over 24 hours
Sight seeing	Beach	0	0	0
	Hot Spring	0	0	0
	Tower	1	3	3
	Street	4	4	5

The 1st variable is defined as $\alpha(i,j)$ of the preference value, i of $\alpha(i,j)$ is the index of stay time, and the j of $\alpha(i,j)$ is index of preference site. The value of $\alpha(i,j)$ is expert's opinion.

Next, we set 2nd variable as $\beta(j)$, which is the

type of stay time, ie. under 10 hours, 10~24 hours or over 24hour. For the evaluation, we made a formula (1) as follows:

$$\sum_i^n \sum_j^m \alpha_{ij} \times \beta_j \dots\dots\dots (1)$$

Using the above formula, we can evaluate the value for those under 10 hours stay time. Next, we can validate the accuracy of the model by a comparison of survey value and model value. The result is shown on <Table 11>.

<Table 11> Accuracy Validation of the Model

Class of Preference	Survey value	Model value
Tour place	15.65%	16%
Experience Tour	1.92%	1%
Cultural Tour	28.63%	29%
Entertainment Tour	0.93%	1%
Food Tour	9.5%	10%
Shopping Tour	42.84%	43%
Wellness Tour	0.47%	0%

VI. Evaluation Value of Preference Sites

Based on stay time, we establish the four scenarios: under 10 hours, 10~24 hours, over 24hours and mixed strategy.

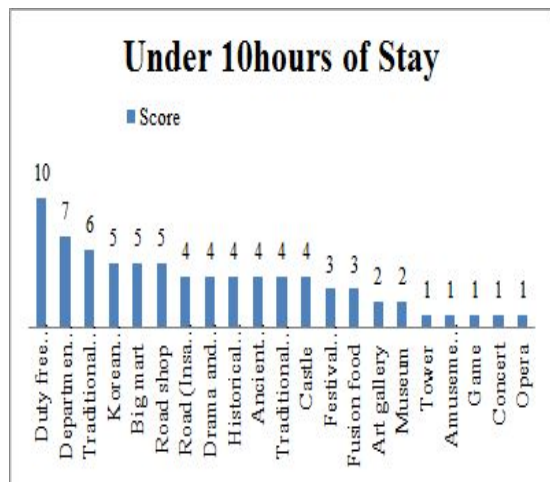
(1) Scenario assumes that all tourists are given under 10 hours at a calling port. If stay time is under 10 hours, shopping and sightseeing are ranked higher rather than experience or culture tours. The evaluation rank of 10 preference sites are shown on <Table 12>.

If we extend the rank to 16 preference sites, shopping tour has dominant score, and culture

tours have a higher score than any other sites as shown in [Fig. 1].

<Table 12> Evaluation Value on Under-10 Hours

Rank	Preference Site	Value
1	Duty free shop	10
2	Department store	7
3	Traditional market	6
4	Korean traditional food	5
5	Big mart	5
6	Road shop	5
7	Road (Insa dong, etc.)	4
8	Drama and Filming location	4
9	Historical location	4
10	Ancient palace	4



[Fig. 1] The Score of Preference Sites Under 10 Hours of Stay

(2) Scenario 2 assumes that all tourists are given 10~24 hours at a calling port. The evaluation rank is shown on table 8. Compared with scenario 1, the casino is recorded at rank 7 due to utilizing night time.

<Table 13> Evaluation Value on 10~24 Hours of Stay

Rank	Preference Site	Value
1	Duty free shop	7
2	Korean traditional food	5
3	Department store	5
4	Road shop	5
5	Road (Insa dong, etc.)	4
6	Drama and Filming location	4
7	Casino	4
8	Historical remains	4
9	Ancient palace	4
10	Traditional town	4

If we extend the rank to 20 preference sites, culture tours like castles, traditional markets, festivals, art galleries, museums, etc are added in [Fig. 2].



[Fig. 2] The Score of Preference Sites Under 24 Hours Stay

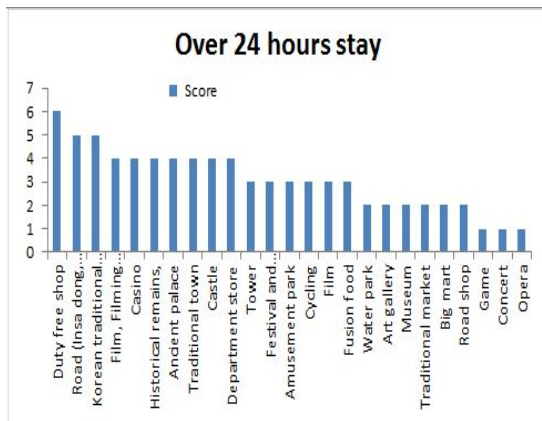
(3) Scenario 3 assumes that all tourists are given over 24 hours at calling port. The evaluation ranks are shown on <Table 9>. Compared to scenario 1, shopping, sighting seeing, food, and culture tours

have higher scores than experience within 10 sites.

<Table 14> Evaluation Value on over-24 Hours of Stay

Rank	Preference Site	Value
1	Duty free shop	6
2	Road (Insa dong, etc.)	5
3	Korean traditional food	5
4	Film, Filming location	4
5	Casino	4
6	Historical remains,	4
7	Ancient palace	4
8	Traditional town	4
9	Castle	4
10	Department store	4

If we extend the rank to 20 preference sites, experience tour like amusement parks, cycling, and water parks are added on [Fig. 3].



[Fig. 3] The Score of Preference Sites Over 24 hours stay

VII. Study Results and Implications

In order to find the preference of cruise tourists, it is necessary to developed evaluation model. The model shows that the value derived from model is the same as survey preference. Using the model,

we rank the preference sites in scenarios based on stay time at the calling port. If all tourists stay under 10 hours at the port, the most preferred sites, the shopping site, food sites, sightseeing sites, and cultural tour sites followed.

If more time but under a 24 - hour stay is given to tourists, the rank is changed a little. The tourists like to enjoy casino games through the night.

If over one day of stay is given to tourists, they enjoy experience tours, like water parks, amusement parks and so on.

As mentioned in introduction, the response ration is 67%, total 134 tourists answered to the questionnaire. As this study has focused on designing preference model, and searching tourist preference with case study, research has limits for suggesting general theory.

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