IMPLICATIONS OF POTENTIAL GREEN TOURISM DEVELOPMENT

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Abstract: Literature reviews suggest the marketing concept should be applied to green tourism planning. Based on a survey of potential such tourists, this research identifies the types of attributes and their corresponding levels that they seek. It also estimates the extent of their influence upon intention to visit by market segment. This study is based on Yangpyeong County in South Korea prior to introducing green tourism. Although this is a case study, other nations can apply the conjoint choice model to develop a suitable combination of factors for attracting potential green tourists, and refer to the findings of this research for guidance in operating their green tourism destinations. **Keywords:** South Korea, green tourism, market segmentation, conjoint choice model. © 2003 Elsevier Science Ltd. All rights reserved.

Résumé: Les implications des possibilités de dévelopment du tourisme vert. Les examens de la littérature suggèrent que l'on doive appliquer le concept du marketing à la planification du tourisme vert. Basée sur une enquête de tels touristes potentiels, cette recherche identifie les types d'attributs at les niveaux correspondants que ces touristes cherchent. De plus, elle estime l'importance de l'influence de ces attributs sur l'intention de visiter selon les différents segments du marché. Cette étude est basée sur la région de Yangpyeong, en Corée du Sud, avant l'introduction du tourisme vert. Bien que cet article soit une étude de cas, d'autres nations peuvent appliquer le modèle de choix conjoint pour développer une combinaison appropriée de facteurs pour attirer des touristes verts potentiels et se référer aux conclusions de cette recherche pour des indications utiles pour la gestion de leurs destinations de tourisme vert. **Mots-clés:** Corée du Sud, tourisme vert, segmentation du marché, modèle de choix conjoint. © 2003 Elsevier Science Ltd. All rights reserved.

INTRODUCTION

As South Korea's economic structure has transformed into a manufacturing-oriented economy since the 70s, it has faced the same rural problems as many other developed countries: falling income levels, decreasing and ageing populations, and an increasing necessity for pre-

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serving rural traditions and environments. Under these circumstances, the central government began to recognize the importance of green tourism as one strategy to revitalize rural areas' economies in the 80s. In 1984, it established 12 tourism farms as a pilot project and since then, the project has expanded on an annual basis. In addition, it established resort complexes in such areas as a way of implementing the Rural Area's Tourism Income Source Development Project in 1989 and supported the Homestay Village Project in 1991.

There were some successful cases among rural tourism destinations that were developed with the support of the central government. These ventures contributed to the financial well being of the individual operators, and to some extent, activated the local economy. However, except for these few successful outcomes, most of the projects failed to realize their expected benefits (Korea Forest Service 1999). Impressed with Japan's green tourism (GT) promotion policies and their fruitful results, South Korean central administration started to extend assistance to local governments and rural residents in the late 90s in order to introduce a version of the Japanese GT (a type of rural tourism) concept into agricultural areas. Similar to South Korea, Japan has a long tradition of rice-farming. Both countries share many cultural characteristics and have faced similar rural problems due to a very small ratio of farm land per household. For these reasons, the South Korean government highly valued the potential success of GT. It also expected that this tourism type would magnify the marketing effect by highlighting the "green image" of rural areas. So far, the government has adopted top-down policymaking and facility-oriented rural tourism development. However, GT is a form of community-based tourism in which rural residents participate voluntarily, aiming mainly at expanding the income of rural households and the host community as a whole by actively selling home-grown agricultural products. It pursues environmentally friendly small-scale development and aims to make urban citizens realize the values of rural areas and the importance of their culture by providing them with opportunities to experience non-urban life and culture. In doing so, it is also designed to help these destinations recover their pride in rural life (Kim 1999).

The South Korean government has not only made changes in rural tourism policies; in addition, a major social change may occur. The government is working to introduce a five-day work-week system. Currently, citizens work an average of 47.9 hours per week. The government is planning to pass this system into law in efforts to enhance the quality of life by expanding leisure time and to create additional jobs by shortening working hours. When the system is adopted officially, leisure and tourism behavior is expected to be one of the first changes (Min, Koh, Choi and Shin 2001). It is expected that average tourism patterns will change from single day trips to trips including an overnight stay and move from simple sightseeing to experience-oriented trips.

Various tourism efforts should be made to capitalize on the changes in GT policies and the reduced work week. However, establishment and operation costs of facilities will be high since present rural tourism

destinations are outdated, offering recreational and accommodation opportunities of the past. This impedes the goals of the new policies by limiting the number of rural residents able to participate in GT businesses, and thus hinders the ability of the rural economy to strengthen and stabilize through the increase in secondary incomes (Kim, Han and Lee 2001). This suggests that simply introducing tourism in specific areas is not the real issue. The more critical issue is whether or not introducing GT will increase the number of tourists enough to ultimately contribute to a rise in incomes for rural households.

One way to address this issue is to apply marketing techniques. However, since potential tourists have different needs, they all cannot be satisfied simultaneously. It is essential to segment them into target markets and match their needs with the skills and resources of GT operators. The latter should then offer attribute levels within destinations that are expected by these potential target markets in order to attract and increase the probability of repeat visitation. Although the literature suggests the necessity of applying marketing to GT (Sharpley 2002), few businesses have adopted these techniques (Reichel, Lowengart and Milman 2000). Therefore, the present study examined a GT destination which was to be developed in Yangpyeong County in order to generate results which tourism operators can apply to their business development and destination planning programs, particularly those focusing on increasing the income of rural households. First, the potential market was segmented based on constraints. Then, the types of salient attributes and their corresponding levels affecting GT participation intention were identified, as well as the extent of their influence. These were calibrated using a conjoint choice model for each segment in order to identify the most suitable target markets for the tourism operators, and to specify which attributes and corresponding levels the target markets seek.

GREEN TOURISM DEVELOPMENT

Being rooted in Europe, green tourism is often used interchangeably with rural tourism in general (Yamazaki, Oyama and Ohshima 1997). This study opts for the former, which has also been used in place of rural tourism in Japan since the early 90s. With the launch of the World Trade Organization in 1995, it became necessary for Japan to abandon a number of policies, including diverse agricultural subsidies and tax reduction which had supported the price of agricultural products. Japan, which has an average farm size of 1.55 ha per household (Ministry of Agriculture 2001), has attempted to adapt to changing trends by focusing on stabilizing the rural economy through efforts to improve the secondary income of rural households. One of the main efforts has been to support GT. This policy was initiated by the central government, defining green tourism as "staying-type leisure activities to enjoy the nature and culture of the destination and interaction with local residents in rural and mountainous areas rich in natural landscape" (The Ministry of Agriculture 1992). More specifically, the

government has tried to keep these natural resources and mountainous areas environmentally sound in order to develop and maintain traditional agriculture and forestry businesses in efforts to revitalize local economies by promoting exchange with urban citizens and to alleviate social problems in such areas, including decreased populations (Miazaki 1997).

Japan's GT is similar to rural tourism in Europe in that it is conducted within the natural environment, and offers tourists opportunities to experience local culture and rural lifestyle via long stays. Here, residents involved in agriculture and forestry play important roles in managing the environment. Unlike Europe, GT in Japan is more concentrated on the sustainable environment of rural areas, and is managed by the residents, although the capital needed for businesses is shared by the central and local governments as well as rural residents. The key to revitalizing local economies is interaction with urban citizens, in which buying and selling, such as the direct sale of agricultural products, is critical. While the sale of rural products is important, more emphasis should be placed on human interactions. In this respect, programs providing urbanites opportunities to taste the host community's unique home-made food and to enjoy the farming experiences of the destination are important attractions, and a useful tool to promote exchanges between rural and urban citizens. Japan's GT is a type of rural tourism that utilizes both the rural culture, which has been cultivated under the long tradition of agriculture and forestry, as well as the nature of rural areas, such as forests and secondary nature in the form of farm lands as attractions (Kim 1999; Kim et al 2001; Miazaki 1997).

The existing research conducted in rural tourism falls into three categories: the introduction and development of rural tourism by countries (Busby and Rendle 2000; Clarke, Denman, Hickman and Slovak 2001; Unwin 1996), investigations into the operational characteristics of each national rural tourism using descriptive methodologies, and studies of the sociodemographic characteristics of such tourists and variables affecting their participation.

Research into operational characteristics has been conducted in many countries. Oppermann (1996) investigated the status of rural tourism in southern Germany in terms of the number of beds, room occupancy rates, seasonal demand, and the contribution of tourism-related incomes toward total net income based on the type of accommodation. Getz and Carlsen (2000) surveyed Australia's family owned and operated businesses in rural tourism to identify their goals, nature of the operation, and satisfaction and problems which stemmed from their businesses. Regarding vacation farms, Weaver and Fennell (1997) surveyed Canadian operators for their operational characteristics such as average vacation farm size, average number of beds, number of full-time employees, reasons for establishing their vacation farm, and business barriers and opportunities faced by the operators. Fleischer and Pizam (1997) analyzed Israel's national census to characterize the development of bed and breakfast operations. They examined elements such as numbers of businesses, beds, and employees. In

addition, Reichel, Lowengart and Milman (2000) reviewed management and marketing strategies to enhance the service by measuring the gap between the quality of service expected by rural tourists and the actual quality of service.

A wide range of research into the sociodemographic characteristics of rural tourists has also been conducted in numerous countries (Fleischer and Pizam 1997; Garcia-Ramon, Canoves and Valdovinos 1995; Koth and Norman 1989; Pevetz 1982). By compiling the existing research, rural tourists almost everywhere are generally in their 30s or 40s, highly educated, higher income earners accompanied by their young children. However, rural tourists of Hokkaido, Japan are different from those of Europe in that 75% of them are in their 20s and 30 (Department of Agriculture 1992).

Salient attributes affecting rural and green tourism include accommodations, seasonality, experiences, and events. The accommodation types are diverse, ranging from campgrounds, self-catering facilities, and bed and breakfast, to fully catered establishments, including hotels and motels in rural communities. In Germany, family groups prefer to stay on farms, with an average length of stay of 16 days (Oppermann 1996). Average length of stay in Spain ranges from 4.5 to 11.4 days depending on the region (Garcia-Ramon et al 1995). To the contrary, a survey of Japanese preferences for GT shows they favor farm inns which provide two meals of traditional food (53%), accommodations providing hotel-class services (21%), cottages (16%) and bed and breakfast (9%), and average length of stay is four days, three nights (Ministry of Agriculture 1992). From this, it is assumed that the type of accommodation preferred and the length of stay vary among countries because of social and cultural differences.

Seasonality was significant in most of the national surveys. The room occupancy rate in Germany is 93–94% between July and August, and only 13–15% between November and January (Oppermann 1996). Similarly, in Spain the summer months are the most popular (Garcia-Ramon et al 1995), and summer time users account for 98.7% of the total users in Hokkaido, Japan (Department of Agriculture 1992). The characteristics which most clearly differentiate GT from mass tourism are experiences and events. Japan provides experiences and seasonal events only rural areas can offer, including picking grapes or mushrooms, catching insects, observing the stars, harvesting potatoes, catching fish or other water-based activities, and planting sweet potatoes, among others (Korea Forest Service 1999; Yoo, Lee, Peon, Joe and Yoo 1998).

As to the present study and its location in South Korea, Yangpyeong is a representative county adjacent to metropolitan cities. Its proportion of the population engaged in farming has consistently declined from 45.2% in 1990 to 35.7% in 2000. In the face of consistent pressure for development due to its geographical proximity to Seoul, which has a population of approximately 10 million (Figure 1), the county has been making continued efforts to become South Korea's representing GT destination with the initiative of its principal policy aimed at maintaining well-preserved nature and culture. It pro-
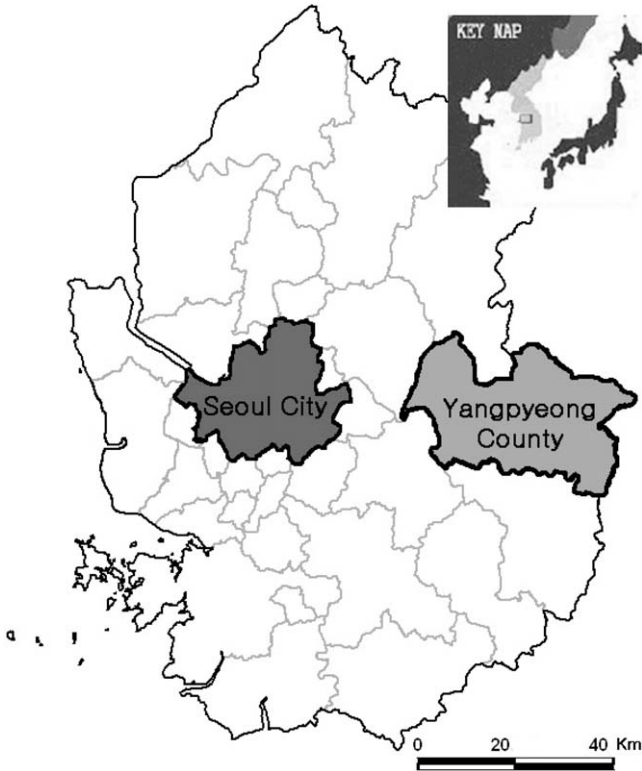
Figure 1. Location of Study Area

motes growing organic produce by minimizing the use of agrochemicals and fertilizers in designated areas, and continuously educates farmers in organic farming by establishing and supporting training courses for farmers at the so-called College of Environmental Agriculture. In addition to this, the county regularly holds the Firefly Festival and Scarecrow Festival with environmental themes. When the first "Digging Out and Buying Doduk (*Cdomopsis lanceolata* T.) in the Mountains" event was held in 2000 targeting Seoul residents, approximately 35,000 participated in the event. Residents of the county also voluntarily organized the Myungdal-Ri Green Tourism Implementation Committee, in which the locals develop programs to enhance their own business competency and visit other successful GT destinations for benchmarking.

A Conjoint Choice Model Approach

In marketing, a product is defined as "a bundle of want-satisfying attributes" (Howard and Crompton 1980) and the success or failure of a product depends on consumers' need satisfaction. Under this definition, in order to manage GT destinations successfully, operators

should provide tourists with more utility than competing alternatives by offering them the type of attributes they expect. By doing so, the probability of the destination to being chosen (purchased, visited) is increased because tourists select the alternative that maximizes their utility based upon their evaluation of available attributes and their corresponding levels. Each tourist is likely to give up one benefit to gain another. For instance, one is likely to abandon a low (level) price (attribute) to gain a nature-learning (level) experience (attribute) provided in green tourism.

Existing research approaches to choice behaviors can be broadly categorized as either conjoint models (which predict behavior by considering the preference of respondents for hypothetical alternatives) or logit models (which analyze real choice data). Both determine preference or choice by analyzing the utility of attributes related to choice with an algebraic rule. The conjoint model makes it possible to predict tourists' preferences for new situations, for instance a destination to be developed, because it can simulate these new arrangements as hypothetical alternatives. In addition, correlation between attributes can be removed since this model constructs hypothetical alternatives by a fractional factorial design. However, it has to make *ad hoc* assumptions of error distribution necessary to translate its predictions into choices, for it is a preference, not a choice model. As a consequence, the credibility of results is undermined. The logit model is the representative of the revealed preference method and can predict the choice behavior with high external validity because it uses real choice data for analysis. However, it controls neither the correlation among attributes used, nor eliminates the influence of external attributes not used in the study, nor predicts changes in demand in new situations (Hong 1995; Louviere and Hensher 1982; Louviere and Timmermans 1990; Louviere and Woodworth 1983).

In order to minimize the drawbacks of the two models while combining their advantages, Louviere and Woodworth (1983) suggest a conjoint choice model which can make direct predictions on choices in the form of the logit model by calculating the part-worth of attribute levels obtained from choice-type rather than preference data. It also eliminates problems arising from using real choice data since it offers hypothetical alternatives like the conjoint model and resolves *ad hoc* assumptions of error distribution used to translate its predictions into choices by meeting the requirements necessary to calibrate the logit model.

$$p(a|C_i) = \frac{\exp(V_a)}{\displaystyle\sum_{j \in C_i} \exp(V_j)} \tag{1}$$

where $C_i = i$th choice set, $p(a|C_i)$ = probability of choosing alternative a in C_i (i=1, 2, …, I), and V_a=preference (utility) of alternative a.

Determination of Variables and Hypothetical Alternatives

There is limited domestic research on salient attributes and their
levels affecting GT participation. Hence, they were determined by
reviewing and compiling previous research findings, such as the type
of accommodation, the type of expenses, events, type of dining, daily
costs, visiting season, and amenities of the place of accommodation
(Department of Agriculture 1992; Fleischer and Pizam 1997; Garcia-
Ramon et al 1995; Kang 1999; Korea Forest Service 1999; Luzar,
Diagne, Gan and Henning 1998; Ministry of Agriculture 1992; Opper-
mann 1996; Yamazaki, Oyama and Ohshima 1997; Yoo et al 1998).
According to the Korea National Tourism Corporation (2000), the
average length of stay for Seoul residents in terms of mass tourism is
two days/one night (41.7%) and three days/two nights (34.4%). Thus,
three days/two nights or more, two days/one night, and day trips were
chosen as the suitable lengths of the stay.

It is well documented that constraints exert direct and indirect
influences on both leisure preference and participation (Crawford,
Jackson and Godbey 1991; Jackson and Henderson 1995). Neverthe-
less, little research on constraints has been conducted which can be
directly applicable to GT. Therefore, the authors utilized a 17-item
Likert-type scale by referring mainly to Crompton and Lamb's (1986)
constraints taxonomy. These taxonomy variables were used as a means
to segment the market and to examine perceptions of constraints for
participation in GT. External physical constraints which cannot be con-
trolled by operators or potential tourists were excluded, and only items
which can be applicable to GT were selectively chosen. Further, some
additional items judged necessary for this research were selected from
domestic constraint-related studies and added to the constraints
chosen (Hong 1998; Um 1994) (Table 1).

The hypothetical alternatives for taking an extended GT trip to
Yangpyeong, either three days/two nights or more (3D/2N-M
alternative) or two days/one night (2D/1N), were constructed using
all attributes explained earlier. Thus, 32 hypothetical alternatives were
generated for both the 3D/2N-M and 2D/1N alternatives, by using
1/96 fractional factorial design. In order to construct the hypothetical
alternative for a day trip (1D alternative), type of experiences, events,
daily costs, and visiting season were used. Thus, 32 hypothetical alterna-
tives were generated using one-quarter fractional factorial design. Each
of the three alternatives, 3D/2N-M, 2D/1N and 1D, are comprised of
32 hypothetical alternatives. The choice sets were generated by ran-
domly selecting one alternative out of each of the 3D/2N-M, 2D/1N
and 1D, and adding the base alternative "would not take a green tour-
ism trip to Yangpyeong County". Thus, 32 choice sets consisting of 4
hypothetical alternatives were made.

Because each choice set is composed of three alternatives con-
structed by changing the levels by attribute and one base alternative,
it is demanding for one respondent to evaluate all the 32 sets. So, to
make the evaluation easier, each respondent was provided with 8
choice sets randomly chosen from the 32 sets for this evaluation. Thus,

Table 1. Rotated Factor Patterns of Constraints

Constraints	Factor 1	Factor 2	Factor 3	Factor 4
A negative image of tourism itself	**.6880**	−.1093	−.1917	.1486
Physically difficult in taking a tourism trip	**.6147**	−.0154	−.0057	−.1176
No interest in tourism	**.5913**	−.0525	.0660	−.0165
A lack of awareness of the benefits which tourism offers	**.5196**	−.0338	.0522	.1303
A lack of someone with whom to take a tourism trip	**.4783**	.1396	.0608	−.0962
A lack of compatibility with other tourists	**.3942**	.1108	.0512	.0526
A lack of time	.1189	**.5530**	−.0414	.0691
Inconvenient location	.0242	**.4667**	.0044	.0945
A lack of information	−.0365	**.4653**	−.1757	.0765
Work commitments	−.0804	**.4241**	.0184	.0714
Unable to resolve to take a tourism trip	.2934	**.4083**	.0455	−.0829
Good quality service personnel in tourism sites	−.0587	.0683	**.5367**	−.1039
Proximity to other tourist attractions	−.0242	−.0552	**.4913**	.2219
Adequate in diversity of amenities such as resting lounges, restaurants and wash rooms	.0251	−.0928	**.4474**	.1512
Good quality of amenities such as resting lounges, restaurants and wash rooms	.2040	−.0515	**.4452**	−.1221
Too crowded	.0797	.1384	.1014	**.5887**
Unable to afford taking a tourism trip	−.0836	.2710	.0563	**.3533**
Variance Explained[a]	20.87%	13.74%	9.54%	6.59%

[a] Percentage of variance explained by each factor ignoring the other factors.

at least 4 respondents were required to evaluate all choice sets. The sample size was set as 608, a multiple of 4. A polling agency conducted sampling and data collection targeting Seoul citizens. Respondents were selected by cluster sampling with probabilities proportional to size. Age was limited to 19-59. In the first stage, 58 Tongs (South Korea's smallest administrative unit, equivalent to a census block) were selected. In the second stage, 8–12 residents were selected in each of the Tongs chosen. Then, face-to-face interviews were conducted on a total of 608 Seoul residents. The data was collected from October 30 to November 16, 2000.

Market Segmentation

One of the purposes of this research is to identify the extent of the influence of attribute levels upon the intent to participate for each tourism segment. To this end, both factor and cluster analyses were used simultaneously. The former is used for condensing the information contained in a number of original variables (i.e., constraints) into a smaller set of new, composite dimensions (i.e., factors) with a minimum loss of information. The latter is a method of grouping objects (i.e., respondents) based on predetermined clustering criteria (i.e., constraint factor score) so that the objects in one cluster (such as market segment) are very similar to each other. The within-cluster homogeneity and between-cluster heterogeneity are shown high in the generated clusters of objects.

To segment the market based on constraints, a maximum likelihood factor analysis with an oblique rotation was performed to determine the factor structure of the constraints scale because of high correlation between factors. Based on the overall Kaiser's MSA of 0.77, it was acceptable to perform this analysis. Considering both eigenvalues greater than one and the scree plot, four factors were judged appropriate (Table 1). With the sample size of 608, extracted ones were interpreted on the basis of variables with factor loadings of 0.35 or more (Hair, Anderson, Tatham and Black 1995). The first was titled "general blocking factor" since it was comprised of variables which make participation in tourism itself hard. The second was titled "individual blocking factor" since it was comprised of problems arising from the lack of time, information and accessibility of individuals. The third was titled "destination attraction factor" because it mainly consisted of variables relating to services and attractions of mass tourism sites. The last was titled "destination dissatisfaction factor" because it consisted of variables pertaining to crowding and the high prices of mass tourism sites in South Korea.

A cluster analysis was carried out by using the four extracted factor scores as independent variables and the three segmented markets were identified based on pseudo-F statistics. Their characteristics were interpreted by the mean factor scores of each cluster (Table 2). Market segment 1 (SEG 1) accounted for 33.6% of the total respondents, and was predominantly influenced by factors 2, 3, and 4. Respondents in this segment were labeled as an "anti-mass tourism group" who tend to be short of time and have strong negative attitudes toward mass tourism. Segment 2 (SEG 2) was influenced by all factors evenly, and was labeled as a "no interest in tourism group". These respondents did not have a strong desire for tourism and appeared to have little time for it. They are expected to prefer mass tourism destinations when they are given an opportunity to take a trip. Segment 3 (SEG 3) was comprised of respondents with both the desire and time for tourism and appear to not be dissatisfied with mass tourism. Since this group was favorable toward tourism, they were labeled as the "variety seeking group", which might regard GT as a new alternative.

The Chi-square test of independence showed that SEG 1 and SEG

Table 2. Mean Factor Scores of Segmented Groups

Segment	Factor 1	Factor 2	Factor 3	Factor 4	Number of Respondents (%)
1. Anti-Mass Tourism Group	−.1284	.3624	−.4607	.5887	204 (33.6%)
2. No Interest in Tourism Group	.8918	.4798	.5893	−.3282	187 (30.8%)
3. Variety Seeking Group	−.6478	−.7541	−.0747	−.2706	217 (35.7%)

3 had distinct sociodemographic characteristics. SEG 3 had higher proportions of males, white-collar individuals, college students, and singles, and a lower proportion of business owners and housewives. In addition, SEG 3 had higher proportions of those in their 20s and lower proportions of those in their 40s. When comparing the characteristics of these two segments, SEG 3 appears to be composed of those who have enough free time and a positive attitude toward exploring new things, whereas SEG 1 tends to be greatly influenced by work and/or family commitment constraints.

Calibration of the Conjoint Choice Model by Segment

The extent of influence of attribute levels was calibrated with the conjoint choice model using the maximum likelihood method. For this study, the results of SEG 1 and SEG 3 were compared and interpreted, while SEG 2 was excluded because it was seen as a "no interest in tourism group" (Tables 3 and 4). The attribute levels were defined using dummy coding. The calculated McFadden ρ^2 of SEG 1 and SEG 3 were .1995 and .1966, respectively, which are acceptable explanatory levels for the general class of pseudo ρ^2 measures used in qualitative choice analyses (Greene 1995; Maddala 1991).

Constants. Most of the constants were negatively calibrated because GT is a rather new term for the public, and because of the influence of financial and psychological risks of visiting a rural destination which may not match one's expectations. The values of the constants indicate the characteristics of each segment well. Although SEG 1 was "anti-mass tourism group", it does not imply that the alternative they seek is GT. Since this group is influenced strongly by "individual blocking factors" (such as a lack of time), it is expected that this group will choose destinations very cautiously when they have an opportunity to take a tour. Therefore, the constant for 3D/2N-M alternative was calibrated as the largest negative (Table 3). One of the major reasons for this result is that South Korea still has a six-day work-week system. Since

Table 3. Model Estimation Results: Segment 1(Anti-Mass Tourism Group)[a]

Attributes	Levels	3D/2N-M[b]		2D/1N[c]		1D[d]	
		Parameter Estimate	$P[|Z|{\geq}z]$	Parameter Estimate	$P[|Z|{\geq}z]$	Parameter Estimate	$P[|Z|{\geq}z]$
Type of Accommodation	Log cabin	**.5701**	.0065	**.5674**	.0036		
	CONDO[e]	.3476*	.0952	.2208	.2817		
	Farm inn	.3268*	.1042	.2800	.1806		
	Motel	.0000		.0000			
Type of Experience	Foraging[f]	**.4257**	.0228	**.4246**	.0275	**.5140**	.0266
	Nature learning[g]	.1305	.5129	.1944	.3490	.1030	.6516
	Recreational type[h]	-.3844*	.0796	.2669	.1937	-.0476	.8415
	Farming[i]	.0000		.0000		.0000	
Events	Provided	**.3887**	.0086	.2159	.1380	.2224	.1762
	Not provided	.0000		.0000		.0000	
Dining	Buy one meal[j]	**.5136**	.0043	.0255	.8841		
	Buy two meals or more	**.4831**	.0166	.0976	.5973		
	Prepare all meals yourself	.0000		.0000			
Daily Cost[k]	$25/day	**2.7827**	.0000	**2.4473**	.0000	**2.7671**	.0000
	$50/day	**2.1115**	.0000	**1.5286**	.0000	**1.7631**	.0000
	$75/day	**1.3259**	.0000	**.8901**	.0001	**.7296**	.0158
	$100/day	.0000		.0000		.0000	
Visiting Season	Spring	-.0554	.7953	**.4424**	.0337	.1534	.5027
	Summer	.0337	.8668	.2175	.3083	.0178	.9412
	Fall	.2240	.2491	.1418	.5076	.2217	.3529
	Winter	.0000		.0000		.0000	
Amenities at the Place of Accommodation	Without telephone, TV	.0455	.7518	-.0489	.7438		
	With telephone, TV	.0000		.0000			
Constant		**-1.9152**	.0000	**-1.2188**	.0006	**-1.5214**	.0000

[a] The figures shown in **boldface** and * indicate statistically significant confidence levels of 95% and 90%, respectively.
[b] "Three days/two nights or more" alternative.
[c] "Two days/one night" alternative.
[d] "One-day return trip" alternative.
[e] Timesharing condominium apartments.
[f] Possible to experience harvesting mushrooms and wild vegetables such as Doduk.
[g] Possible to observe wild birds, wild flowers and stars with a guide.
[h] Possible to enjoy many water-based activities or sleighing.
[i] Possible to experience farming such as taking care of paddy fields.
[j] Buy meal at place of accommodation.
[k] Based on 4 persons.

SEG 3 is a "variety seeking group" with positive attitudes toward challenging new ventures, the constants for the three alternatives were calibrated higher than those of SEG 1. This segment was supportive of GT for the 2D/1N alternative so much so that there was no statistical difference with the base alternative (Table 4). The reason why the constant for 1D alternative was calibrated as more negative than that for

Table 4. Model Estimation Results: Segment 3 (Variety Seeking Group)[a]

Attributes	Levels[b]	3D/2N-M[c]		2D/1N[d]		1D[e]	
		Parameter Estimate	$P[|Z|\geq z]$	Parameter Estimate	$P[|Z|\geq z]$	Parameter Estimate	$P[|Z|\geq z]$
Type of Accommodation	Log cabin	**.5904**	.0030	**.4674**	.0105		
	CONDO	**.8043**	.0000	.3016*	.1039		
	Farm inn	.2389	.2185	.2953	.1185		
	Motel	.0000		.0000			
Type of Experience	Foraging	.2148	.2413	.1573	.3805	.2329	.3030
	Nature learning	**.4439**	.0203	.0148	.9378	.1460	.5226
	Recreational type	**.3759**	.0471	.1966	.3044	.2265	.3389
	Farming	.0000		.0000		.0000	
Events	Provided	.1917	.1554	.0348	.7915	**.4793**	.0028
	Not provided	.0000		.0000		.0000	
Dining	Buy one meal	.2686*	.0985	.0431	.7832		
	Buy two meals or more	.1413	.4557	.1606	.3585		
	Prepare all meals yourself	.0000		.0000			
Daily Costs	$25/day	**1.8954**	.0000	**2.1150**	.0000	**2.3633**	.0000
	$50/day	**1.2624**	.0000	**1.4468**	.0000	**1.2049**	.0000
	$75/day	**.6066**	.0032	**.8345**	.0000	**.7539**	.0081
	$100/day	.0000		.0000		.0000	
Visiting Season	Spring	.2690	.1513	-.1966	.3029	.3234	.1560
	Summer	.0296	.8756	.1807	.3560	.0441	.8523
	Fall	.0857	.6493	**-.4220**	.0299	.2356	.3173
	Winter	.0000		.0000		.0000	
Amenities at the Place of Accommodation	Without telephone, TV	-.0434	.7443	-.0564	.6861		
	With telephone, TV	.0000		.0000			
Constant		**-1.0801**	0.0002	-.3153	0.2900	**-1.4657**	.0000

[a] The figures shown in **boldface** and ∗ indicate statistically significant confidence levels of 95% and 90% , respectively.
[b] "Level descriptions as per the Table 3.
[c] "Three days/two nights or more" alternative.
[d] "Two days/one night" alternative.
[e] "One-day return trip" alternative.

2D/1N alternative in both segments is that respondents felt a day trip was not enough time for GT and 2D/1N is the longest length they feel they could spare for tourism in a week.

Type of Accommodation. SEG 1, which seems to have lost the most interest in mass tourism, prefer different types of accommodations from the popular types, such as motels for a 3D/2N-M alternative. They prefer log cabins, timesharing condominium apartments (CONDO), and farm inns, respectively. In particular, it is notable that the prefer-

ence for farm inns and motels was statistically different in SEG 1 while
no statistical difference was shown in SEG 3. Perhaps it is because the
latter was composed of a larger proportion of young respondents.
Thus, they preferred CONDO and log cabins to motels since they value
convenience and privacy. However, there was no significant difference
between motels and farm inns which are considered as the most desir-
able accommodation type from the perspective of tourism operators.

The 2D/1N alternative appears to be less sensitive to the type of
accommodation than the 3D/2N-M option, lowering the preference
gap for type of accommodation. However, people in both groups pre-
ferred log cabins the most. This is perhaps because this type of accom-
modation is seen as acceptable for a single overnight stay since it offers
a unique experience.

Experiences, Events and Meals.   The attribute best reflecting the
characteristics of GT is the type of experiences. Since the 3D/2N-M
alternative offers sufficient time for tours, this was statistically signifi-
cant at two levels for SEG 1 and SEG 3. For both the 2D/1N and the
1D alternatives, however, there was no statistical significance in the
level for experience in SEG 3, which is probably due to time limi-
tations. Additionally, only one type of experience, "foraging experi-
ences," was significant for SEG 1.

SEG 3, which is composed of relatively young respondents, expressed
the strongest preference toward "nature learning experiences", fol-
lowed by "recreational type experiences". SEG 1, which consists of a
higher proportion of housewives and those in their forties, had no
statistical difference in preferences between "nature learning experi-
ences" and "farming experiences". Perhaps this is because people in
SEG 1 tend to regard having experiences in nature as somewhat bur-
densome, and view "nature learning experiences" as better suited for
younger generations. However, "foraging experiences" were statistically
significant only in SEG 1 revealing that these individuals value pol-
lutant-free produce and care about the health of family members. This
interpretation is backed by the fact that "foraging experiences" was
preferred to "farming experience" for both the 2D/1N and the 1D
alternatives. The same context holds good for SEG 1 preferring "farm-
ing experiences" to "recreational type experiences."

In the case of events, only the 3D/2N-M alternative was significant
for SEG 1, and the 1D alternative was significant for SEG 3. This sug-
gests that SEG 1 wants tourism offering a wide range of experiences
that they can enjoy with enough time, as opposed to mass tourism for
which schedules are tight. SEG 3 seeks a variety of experiences and is
willing to enjoy events for one day.

The 2D/1N alternative turned out to be less sensitive to the type of
dining, since it is a relatively short trip. However, for the 3D/2N-M
alternative, SEG 1 preferred buying meals as opposed to preparing
them. Perhaps this is because they tend to enjoy tourism with enough
time free from preparing meals, which is the most tedious household
chore, given the demographic characteristics of this group. Buying one
meal was the only level which showed significant preference for SEG

3. Since this group is most likely to take a tourism trip with friends, it seems easy for them to prepare meals themselves outdoors, and it may be difficult to buy two meals a day since they prefer "nature learning experiences" which are usually conducted some distance from accommodations.

Other Salient Attributes.   Daily costs was the largest coefficient in the two segments, as expected. This reflects that costs are the most influential attribute regardless of market segment. Unexpected results were found regarding visiting season and provision of amenities at the place of accommodation. SEG 3 responded that winter is more appropriate for GT than fall in the case of the 2D/1N alternative. It appears that this group expects GT to offer more unique experiences in winter. Both groups showed no significant difference in preference between presence and absence of amenities such as telephones and TV. It can be interpreted that they do not care about these amenities.

CONCLUSION

Since most existing research focuses on outlining rural tourism's status by country, or describing the characteristics of the operators and users, research has failed to provide concrete implementation methods. For GT to become successful, the market should be segmented, then attributes must be provided at a level that satisfies these potential tourists' wants. Once the attributes and corresponding levels are identified by segment, the extent of their influence on intention to take a trip should be tested prior to implementation in effort to prevent economic loss from failed ventures. By using both factor and cluster analyses, this research segmented the market by constraints which are representative of antecedent variables of leisure preference and participation targeting potential green tourists in South Korea. Then, the conjoint choice model was used to estimate to what extent the selected salient attributes and their levels affect the intention to take a trip.

This research adopted the conjoint choice model for estimating the coefficients of attribute levels for two reasons: one, when business start-ups or existing operators intended to change existing attractions or existing types of services, demand in this hypothetical situation would have to be estimated by using intention as a dependent variable; and, two, it is well known that intention is a direct predictor of behaviors (Fishbein and Ajzen 1975). Even though demand in the hypothetical situation can be estimated by both the conjoint choice model and the conjoint model, *ad hoc* assumptions of error distribution should be carried out for the conjoint model. Due to this drawback of the conjoint model, this research used the conjoint choice model.

On average, respondents in the two segments preferred "would not take a green tourism trip to Yangpyeong County" over the choice of "would take a trip." Even though rural tourism has been in operation in South Korea for more than 20 years, it has not been successful. In 1999, only 1% of all tourists chose farm land and orchards as desti-

nations (Korea National Tourism Corporation 2000). Given this, it is reasonable that more respondents indicated they would not take a GT trip. However, the number of respondents who chose the 2D/1N alternative was larger than those who chose the 3D/2N-M or 1D alternatives. This suggests it is highly possible for GT to succeed in South Korea. Perhaps this result was because the longest holiday people can afford to take, except for vacations and summer leave, is a 2D/1N trip, due to the present six-day work-week system. If a five-day work-week system is adopted, GT will stand a better chance of contributing to the revival of the rural economies in South Korea.

Respondents preferred log cabins and CONDO to motels. Farm inns, which are the most desirable accommodation type from the perspective of operators, were significant but its preference degree was low in SEG 1. Respondents appear to be already well aware of the convenience of log cabins and viewed them as complimenting GT, since they are a typical type of accommodation in recreational forests. Due to their convenience, CONDO were preferred by SEG 3, which consisted of a high proportion of college students and singles. Given the fact that one of the major revenue sources of GT is the provision of accommodations, this research suggests that it is desirable to develop log cabin accommodations, which operators are able to provide and tourists prefer.

Types of dining were significant only for the 3D/2N-M alternative. Particularly, SEG 1, the "anti-mass tourism group", considered buying meals important. This can be interpreted as an anticipation of the opportunity to taste the unique food of the area, as opposed to mass tourism, which offers food choices they can find anywhere. Since SEG 3 preferred "nature learning experiences" the most, it may be difficult for them to buy two meals considering their tourism schedule. Although bed and breakfast are not in operation in South Korea, the development of bed and dinner should be considered, given the characteristics of SEG 3.

The typical attributes that differentiate GT from mass tourism are the types of experiences and events. SEG 1 preferred "foraging experiences", while SEG 3 preferred "nature learning experiences" and "recreational type experiences." This reflects the fact that each segment has different needs. Thus, programs which satisfy the needs of target markets should be provided in order to attract new tourists and encourage repeat visitation. This research used 4 levels of experiences and 2 levels of events; however, more levels could have been used in order to estimate the influence of more diverse types of experiences and specific types of events on intention to visit. Since it is too demanding for respondents to evaluate a large number of attributes and/or attribute levels, follow-up studies could use a pairwise conjoint approach in order to address this problem (Wang, Oppewal and Timmermans 2000).

Tourism operators of all types have to deal with seasonality in order to enhance profitability. Although there is no existing research on the effect of seasonality on GT in South Korea, the rate of accommodating tourists in mass tourism is 14.4% in July and 27.8% in August, as com-

pared to only 6.1% in January and 6.0% in February (Korea National Tourism Corporation 2000). This is because the most favored holiday season is summer, which overlaps with students' summer vacation. Contrary to this, there was no significant preference of summer over winter for taking a GT trip. This research indicated that for the 2N/1D alternative, SEG 3 preferred winter over fall for taking a GT trip. It can be inferred that respondents expect new seasonal experiences from this type of tourism. More in-depth research needs to be conducted in this area.

This study used constraints as market segment variables. In addition to these variables, sensation-seeking should be considered as an alternative market segment variable to constraints in the follow-up studies, since it is highly possible for novelty-seeking groups like SEG 3 to participate in GT. Sensation seekers are defined as "novelty-seeking people who are searching for new, diverse or complex ventures or experiences and are ready to take risks if they can have the experiences they expect" (Breen and Zuckerman 1999). Research has been conducted in the leisure field to test the relationship between the personality construct of "sensation-seeking" and attitudes to several characteristics of national parks (Galloway and Lopez 1999).

Although many findings from this case study may not be directly applicable to other countries with different sociocultural characteristics, they are relevant to GT research in that they may be used as a basic model for planning and developing a rural destination adjacent to a large city. In addition, this research is meaningful for adopting marketing techniques for GT and suggests a methodology to identify specific attributes and their corresponding levels for successful GT businesses. Although existing studies emphasized the importance of marketing techniques, most of them simply demonstrated the sociodemographic characteristics of tourists. This research follows the consecutive steps of market segmentation, target market selection, and identification of the preferences of respondents for various hypothetical attribute level combinations. In particular, even though it is obvious that GT operators are most interested in what types of attribute levels to adopt to make their business a success, no research studies were found to suggest a specific methodology to answer this question regarding GT. Recently, the conjoint choice model has been widely used for several areas investigating choice behaviors, due to its proven reliability and validity. This study demonstrates the model is also applicable to GT research. ∎

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