

Analysis of the Online Word-of-Mouth in Satisfaction for National Parks

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ABSTRACT

The purpose of this study is to explore the importance and satisfaction of national parks as perceived by tourists, to serve as a reference for related government departments in providing services. This study uses the perspective of online word-of-mouth to analyze evaluations of Kenting National Park, Yushan National Park, Shei-pa National Park, Taroko National Park, Kinmen National Park, and Yangmingshan National Park. The research period was between January 1, 2008 to December 31, 2010, in which the online word-of-mouth data on six national parks was collected from two major websites "Yahoo Blog" and "Wretch." There were 2647 valid samples. The analytical results of this study were as follows:

1. Shei-pa National Park and Yangmingshan National Park are the same, with tourists placing the most importance on scenery, followed by ecology. Kenting National Park is the same as Yushan National Park, in which tourists emphasize ecology the most, followed by scenery. Taroko National Park tourists emphasize scenery, followed by culture and manners. Tourists of Kinmen National Park emphasize culture and manners the most, followed by historical relics. Overall, tourists of national parks placed most importance on the aspect of natural resources.

2. Kenting National Park, Yushan National Park, and Shei-pa National Park are located in regions with high competition, while Taroko National Park, Kinmen National Park, and Kenting National Park are located in independent areas, with clear themes, and have their own unique competitive advantages.

Keywords: *satisfaction, national parks, online word-of-mouth*

INTRODUCTION

Research Background and Motives

In the tourism system of Taiwan, there are currently eight established national parks, Kenting National Park, Yushan National Park, Yangmingshan National Park, Taroko National Park, Shei-pa National Park, Kinmen National Park, Taijiang National Park, and Marine National Park, which are distributed throughout Taiwan, Kinmen, and the Nansha Islands. According to the statistical data from the Tourism Bureau, the number of Taiwanese visits to national parks was 14.81 million in 2007, 15.43 million in 2008, 17.24 in 2009, and by the end of September 2010 there were already 12.04 million visits, which shows a steady yearly increase of tourists to national parks. In 2009, the top ten types of tourism and leisure, as listed by the Tourism Bureau, showed that tourism in national parks was in fourth place. This shows that travel to national parks comprised a considerable ratio of Taiwanese travelers, and are considered hot spots for Taiwanese leisure. Thus, one of the main research motivations of this study is to explore tourist's perceptions of the recreational resources of national parks.

For marketing events, the most central benefit of word-of-mouth communication is that receivers of word-of-mouth can convey their positive feelings to more people, which can be converted to actual purchasing behaviors, as well as better cognition and attitudes regarding this brand (Herr et al., 1991).

Today, there are many channels for Internet transmission of word-of-mouth, including Internet chat rooms, BBS, WWW, e-mail, newsgroups, Internet gaming systems, instant messaging, and online forums (Hanson, 2000; Bickart and Schindler, 2001), as well as currently popular blogs; the transmission and exchange of information online is also a method for transmitting word-of-mouth. This study seeks to use word-of-mouth posts regarding national parks on the Internet to understand the current overall recreational resources provided by Taiwan's national parks. Thus, the second motivation of this study is to explore the relationship between tourist perceptions of national park resources and online word-of-mouth characteristics.

In developing leisure and recreational business, national parks must cover conservation of recreational resources, as well as managing the mission of long-term sustainability and engaging in regular evaluations of management (Chen, 2007; Wu, Huang and Chiu, 2004). Through the online word-of-mouth of tourists regarding national parks, it is possible to provide Taiwanese national parks with a referential basis for resource improvement; which is the third research motivation of this study.

Research Purposes

With the rapid development of the tourism industry, if national parks have better services, and can provide service items in accordance with tourism needs, it would greatly improve the management performance of national parks and increase tourist numbers. Thus, the collection of data relating to tourist satisfaction is an important basis for engaging in service content improvements. Based on this, there are three research purposes in this study, which are described as follows:

1. To explore aspects of tourist reactions to national park recreational resources.
2. To explore the correlation between tourist online word-of-mouth and national park recreational resources.
3. To use the research and analysis results as a reference and decision-making basis for Taiwanese national parks in improving various resources.

LITERATURE REVIEW

National Parks

Taiwan began promoting national parks and nature conservation works in 1961, and after the "National Parks Law" was established in 1972, eight national parks were established: Kenting National Park, Yushan National Park, Yangmingshan National Park, Taroko National Park, Shei-pa National Park, Kinmen National Park, Dongsha Atoll National Park, and Taijiang National Park. In order to effectively carry out the task of managing national parks, the National Parks Headquarters was established under the Department of the Interior, with the aim of maintaining national assets (Construction and Planning Agency). National parks not only allow for national protection of areas with important meaning, but also provide recreational opportunities for travelers (Lai, Chen and Huang, 2009).

According to Clause 1 and Clause 6 of Taiwan's "National Parks Law," the establishment of national parks is for protecting natural scenery, wildlife, and historical relics unique to the nation, and provided for the education, entertainment, and research of citizens. The selection criteria are as follows:

1. Places with special natural scenery, geology, land objects, fossils, and other wild or remaining animals or plants that are sufficient to represent the nation's natural heritage.

2. Places with important prehistoric relics, historical relics, and that their environments are educational to cultivate citizen spirit, and need long-term preservation by the nation.
3. Places with unique recreational resources, special scenery, convenient transportation, sufficient to cultivate citizen spirit in leisure and appreciation. This shows that national parks can represent the nation in other than functions of natural regional conservation and cultural and historical preservation; they can also allow people to enjoy and appreciate recreation.

Tourist Satisfaction for National Parks

Kolter (1999) suggested that consumer determination of whether there are differences between perceived performance and expectations is based on the expectations for products or service quality, regarding both pre-consumption and post-consumption perceptions of performance of product or service quality. If the actual performance exceeds expectations, there would be satisfaction; if actual performance is lower than the expectation, then there would be dissatisfaction.

Tourists also use personal travel experiences or experiences traveling in similar places to evaluate tourist satisfaction for a destination (Yoon and Uysal, 2005). Thus, it is deduced that the performance of service facilities at a recreational destination would affect tourist satisfaction. According to Muller (1991), satisfaction becomes a key factor for future corporate success, because whether consumers are satisfied would directly influence brand loyalty, complaints, word-of-mouth, market share, and corporate image, and in turn alter the form of competition, and ultimately impact the profit rates of corporations. According to the above literature, tourist satisfaction explored in this study is the personal feelings of tourists after they encounter the software and hardware resources of national parks.

Chen C. F. & Chen F. S (2010) explored the relationship between experiential qualities of traveling to historical relics, perceived value, satisfaction, and behavioral intentions, and focused on tourist feelings after travel at historical relics for an empirical study. The results showed that, feelings after relic travel directly influenced perceived value and tourist satisfaction, and had an indirect influence on behavioral intentions. In short, experience quality would influence perceived value, which would then influence satisfaction and behavioral intention. Fonseca (2009) argued that in a highly competitive environment, customer satisfaction is an important factor for corporate organizations to create and maintain corporate competitive advantages. Chuang, Chen, and Chen (2010) proposed that satisfaction is the perceived happiness or disappointment after tourists receive products or services at a travel destination.

In sum of the above, this study defines national park tourism satisfaction as the happiness or disappointment perceived after a customer encounters various recreational resources at national parks. After referring to related research in various books, the organizing the measurement aspects and indicators of national parks tourism satisfaction are organized as in Table 1.

Table 1: Classifications of national parks tourism satisfaction aspects and details

Aspect	Reference literature	Detail	Reference literature
Public resources	1、3、4、5、 7、8、11、 12	Parking lots	1、3、4、6、8、11
		Restrooms	1、4、8、11
		Trash cans	1、3、4、8、11
		Route guidance boards	2、4、5、6、7、8、11、12
		Security facilities	1、3、4、6、8、11、12
		Convenient transportation	6、11

Recreational resources	1、3、4、5、8、10、11、12	Paths Viewing platforms Campgrounds Recreational facilities	1、3、4、6、8、10、11 3、4 3、4、11 3、4、11、12
Natural resources	1、3、4、5、8、12	Scenery Special views Ecology	3、4、5、6、12 3、4、6、12 3、4、5、6、12
Explanatory resources	1、2、3、4、5、7、8、9、10、11、12	Briefing rooms	4、7、8、9、11、12
		Explanatory boards	1、2、4、5、7、8、9、12
		Display facilities	4、6、7、8、9、10、11、12
		Promotional publications	1、4、6、7、8、9、10、12
		Guide personnel	1、2、3、4、6、7、8、9、11、12
		Website information services	5、6、12
Cultural resources	4、5	Culture and manners	4、6
		Historical relics	4、5、6
		Events and special exhibitions	11
Consumption resources	1、3、4、5、	Lodging	1、4、5、6
		Food and drink	1、3、4、5、6、8
		Fee collection	1、4、5、

1.Lai (2003) 2.Chen(2004) 3.Lin(2004) 4.Wei(2004) 5.Kuan (2005)
6.Lu(2010) 7.Han(2006) 8.Yen (2004) 9. Wu, Huang and Chiu(2004)
10.You (2010) 11.Ma (2009) 12.Li(2009)

Source: compiled by this study

This study uses the above literature review and refers to the 2009 Ministry of Transportation and Communications survey for travel conditions of nationals regarding their satisfaction with the travel sites' natural resource maintenance and natural scenery, travel safety, service attitude of working personnel, environmental management and maintenance, food and drink facilities, lodging facilities, smoothness of transportation, recreational facilities, clarity of guide signs, cleanliness and convenience of restrooms, entrance fee collection, parking lot facilities, convenience for outward mass transportation; and to summarize tourist's satisfaction for national park aspects as "public resources," "recreational resources," "natural resources," "explanatory resources," "cultural resources," and "consumption resources."

Online Word-of-Mouth

Word-of-mouth is the sum of all evaluations regarding a specific product or company during a specific period, and is the socialization process that occurs after each consumer purchases a product, which is passed along in invisible community networks. For some consumers, word-of-mouth is more trustworthy than company promotions (Lin, 2001). Blackwell, Miniard & Engel (2006) modified the definition of word-of-mouth, thus, word-of-mouth transmissions are not only limited to product brands, the product itself, and the services provided, but also includes all consumer thoughts regarding a product and shared usage experiences.

Virtual Internet platforms generate online word-of-mouth through multidirectional information transmission. Ting (2005) suggested that with the prevalence of the Internet, traditional advertising has gradually become ineffective. New banner ads appear on entry websites and blogs, and the reputations of

corporations are elevated with such exposure. Although e-mail ads are less expensive than banner ads, as they are ubiquitous, their media value continues to decline. Word-of-mouth exchanges on Internet communities have become an important tool for corporate advertising and promotion, allowing corporations to quickly and accurately understand consumer needs. In the past, corporations were the “providers” of merchandise and information, while customers were positioned as “consumers” of merchandise and information, and were controlled; however, with the prevalence of the Internet, consumers can quickly exchange information through Internet communities, and no longer fully accept the data provided by corporations.

The purpose of this study is to explore the correlation of customer satisfaction with the online word-of-mouth of the six national parks. In order to understand the online word-of-mouth information of customers, the primary method of research is exploration of Internet information, in which web page content is used for analysis and extraction of features of services and products, which can serve as a source reference for the nation to provide to departments for management and service improvement.

RESEARCH METHOD

Research Structure

First, keywords relating to national parks are input into the two major blog websites. Artificial filtering is used to capture the articles written by tourists after visiting national parks, then the collected articles are formatted based on web address, article title, article date, author name, article content, and feedback content in order to save data in categories, which is saved into a database for follow-up article processing. Then, article information is collected according to the six aspects and details are summarized according to this study’s reference literature, as derived from the related keywords. After filtering the common keywords of tourist word-of-mouth for national parks into groups of feature terms, the filtered feature terms are saved in the feature terms database. After collecting the feature term data, a two-dimensional positioning diagram model is used to create a correspondence chart from the national park features terms and phrases, in order to express the relationship among the rows. The method of a two-dimensional positioning diagram can be used to clearly show the strength of correlation among the items of national park tourist satisfaction, which can serve as reference for the provision of services by national parks.

Data Sources

This study uses the six selected national parks as keywords. The top four blog websites, which are managed by individuals in Internet communities, were surveyed by InsightXplorer in August 2009, included articles from Wretch (www.wretch.cc) (66.6%), Yahoo Blog (tw.blog.yahoo.com) (25.3%), Pixnet (pixnet.net) (11.5%), and Yam Blog (blog.yam.com) (9.4%). Thus, this study uses Wretch and Yahoo Blog as the sources for compiling the database, for the three year period between January 1, 2008 to December 31, 2010, and the database was constructed after unfit samples were filtered out.

Feature Terms

Based on literature reviews on national parks and tourist satisfaction, the aspects of national park tourist satisfaction are constructed, including the six major aspects of public facilities, recreational facilities, scenic resources, explanatory resources, cultural resources, and consumption resources,” as well as their detailed items, which are shown in Table 2:

Table 2: Classification of items and aspects of national park tourist satisfaction

Aspect	Items
Public resources	Parking lot, restrooms, trash cans, route guidance boards , security facilities, transportation
Recreational resources	Paths, viewing platforms, campgrounds, recreational facilities
Scenic resources	Scenery, special views, ecology
Explanatory resources	Briefing room, explanatory boards, display facilities, promotional publications , guide personnel , website information services
Cultural resources	Culture and manners, historical relics, events and special exhibitions
Consumption resources	Lodging , food and drink , fee collection

Source: compiled by this study

Data Analysis

1. Correspondence analysis preprocessing

According to the literature review on national parks and tourist satisfaction in this study, the aspects of national park tourist satisfaction are summarized, including the six major aspects of “public facilities,” “recreational facilities,” “scenic resources,” “explanatory resources,” “cultural resources,” and “consumption resources,” as well as their detailed items and meaningful feature items that can represent the satisfaction of customers at hotels for leisure and vacation, which are then used to calculate the number of times they appear in the original database; the collinear data between satisfaction items and feature terms are listed in order to identify the correlations and connections.

2. Application of correspondence chart

The correspondence chart is a bidirectional cross chart formed from research subjects and the types they reflect. For instance, in Table 3, the four service items of A, B, C, and D have randomly extracted evaluations from customers, which are divided into three levels, “positive,” “negative,” and “neutral.” Based on the response frequencies of satisfaction in the three responses, it is possible to research and understand tourist preferences for services provided by national parks.

Table 3: Correspondence chart

Type \ service items	Positive	Negative	Neutral	Active margin
Item A (feature terms)				
Item B (feature terms)				
Item C (feature terms)				
Item D (feature terms)				
Active margin				

Source: compiled by this study

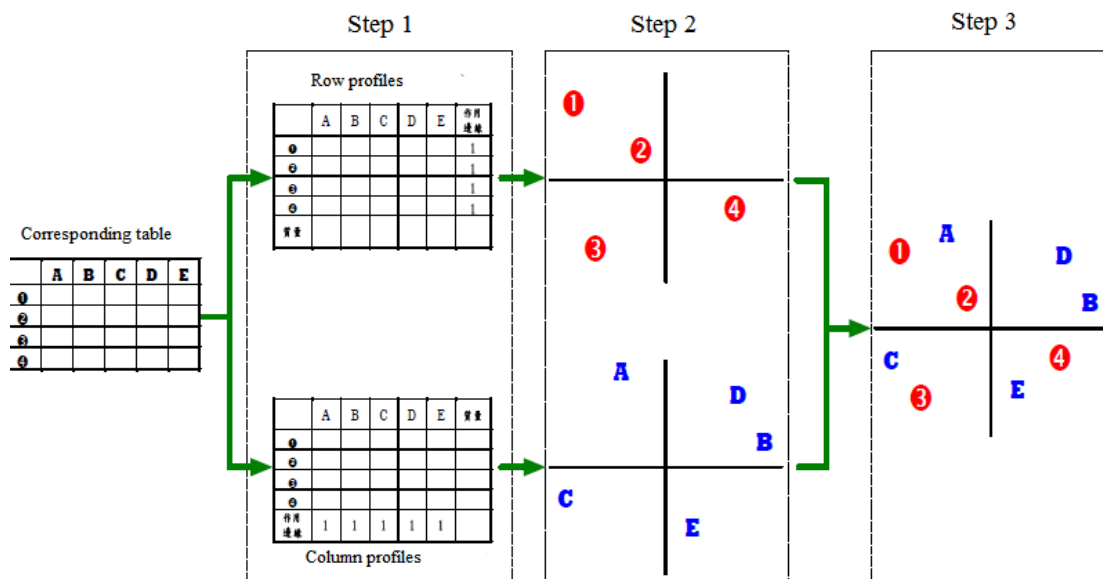
Among these, active margin refers to the margin instances in which the two variables in the bidirectional cross table are used to analyze the categories, meaning the total number of times it occurred in all answers.

3. Application steps

This experiment uses a two-dimensional positioning diagram to express the relative locations of different types of data that can assist decision-makers to distinguish from one map the key aspects of

national parks service items, tourist needs, advantages, and changes in the management of national parks. The method uses correspondence analysis, which uses the frequency data of the columns (variables) as the observed values, where the characteristics of the research subject are listed on the same row; the appeared margin relative instances are used to show the relationships between the research subjects and data correlation variables. The three main analytical steps are as shown in Figure 2, detailed as follows:

- (1) Calculate the row margin instance ratio and column margin instance ratio corresponding to each point in the data;
- (2) Use the margin ratio to calculate the distance to each point;
- (3) Determine the aspect spaces that can conform to these points, and create a position diagram. Since correspondence analysis uses “images” as the results of data analysis, it has the advantages of easy to read, understand, and distinguish; thus, it is beneficial for transmitting data information.



Source: Greenacre, 1981 (cited from Jan, 2009)

Figure 2: Steps of correspondence analysis

4. Results

This study uses correspondence analysis to understand the Internet word-of-mouth from tourists of national parks, the position diagram, proximity, and distance among variables, which explain the correspondence relationship of different strengths. The inertia in the analysis summary chart can explain the discreteness from the data to the axis, and the proportion of inertia defines the explanatory power of each dimension. The corresponding relationships between different service items, analytical goals, service item feature terms, and tourist satisfaction with the feature terms in satisfaction are used to understand the feelings and evaluations by tourists after experiencing service items, which are intended to provide a reference for national parks managers in their work.

RESEARCH RESULTS AND ANALYSIS

The purpose of this study is to explore the influence of Internet word-of-mouth on tourist satisfaction for national parks within the research scope, which uses the databases of Internet information

exchange platforms, such as blogs in Yahoo Blog and Wretch, as the source of data for analyzing word-of-mouth. The period for article collection was from January 1, 2008 to December 31, 2010, yielding 2647 valid samples.

Analysis of Online Word-of-Mouth Content

Table 4 is the results of the descriptive statistics of national park web page content, where the six aspects are used to account for the frequency and overall ratios of online word-of-mouth for the six national parks. The chart shows that, in terms of Internet word-of-mouth, tourists place the most importance on the ecology of Yangmingshan National Park, at a ratio of 20.3%; followed by scenery, with a ratio of 19.5%; then events and special exhibitions, with a ratio of 11.9%. In terms of Internet word-of-mouth, Kenting National Park tourists place the most emphasis on scenery, with a ratio of 17.0%; followed by ecology, with a ratio of 16.0%; then special views, with a ratio of 10.1%. As for online word-of-mouth of Yushan National Park, tourists place the greatest emphasis on scenery, with a ratio of 18.3%; followed by ecology, with a ratio of 16.9%; then special views, with a ratio of 10.6%.

Shei-pa National Park tourists place most emphasis on ecology, with a ratio of 13.6%; followed by scenery, with a ratio of 13.0%; then recreational facilities, with a ratio of 9.2%. In terms of online word-of-mouth, Taroko National Park tourists place most emphasis on scenery, with a ratio of 14.9%; followed by special views, with a ratio of 11.0%; then culture and manners, with a ratio of 10.4%. Kinmen National Park tourists place most emphasis on culture and manners, with a ratio of 14.5%; followed by historical relics, with a ratio of 13.5; then explanatory boards, with a ratio of 8.4%.

Table 4: Distribution of instances of analytical items on national park web page content

Aspect	Details	Yangmingshan		Kenting		Yushan		Shei-pa		Taroko		Kinmen	
		(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Public resources	Parking lots	67	3.3	31	1.4	33	1.8	36	1.4	46	1.6	1	0.04
	Restrooms	9	0.4	12	0.5	10	0.6	0	0	44	1.5	0	0
	Trash cans	0	0	0	0	5	0.3	0	0	22	0.8	0	0
	Route guidance boards	37	1.8	106	4.8	85	4.7	190	7.3	85	3.0	0	0
	Security facilities	0	0	0	0	29	1.6	82	3.2	45	1.6	0	0
	Convenient transportation	114	5.6	0	0	10	0.6	115	4.4	0	0	0	0
Recreational resources	Paths	96	4.7	197	8.9	128	7.1	220	8.5	169	5.9	16	0.6
	Viewing platforms	9	0.4	148	6.7	30	1.7	80	3.1	91	3.2	81	3.2
	Campgrounds	16	0.8	0	0	54	3.0	0	0	22	0.8	84	3.3
	Recreational facilities	101	4.9	90	4.18	83	4.6	238	9.2	73	2.5	16	0.6
Natural resources	Scenery	399	19.5	378	17.0	328	18.3	338	13.0	429	14.9	160	6.3
	Special views	105	5.1	223	10.1	191	10.6	160	6.2	316	11.0	113	4.4
	Ecology	415	20.3	354	16.0	303	16.9	354	13.6	135	4.7	193	7.5
Explanatory resources	Briefing room	0	0	132	6.0	29	1.6	87	3.3	68	2.4	97	3.8
	Explanatory boards	33	1.6	122	5.5	111	6.5	145	5.6	145	5	214	8.4
	Display facilities	19	0.9	48	2.2	18	1	56	2.2	144	5	256	10
	Promotional publications	0	0	23	1.0	13	0.7	6	0.2	41	1.4	28	1.1
	Guide personnel	29	1.4	82	3.7	95	5.3	88	3.4	22	0.8	78	3.1
	Website information services	38	1.9	7	0.3	11	0.6	106	4.1	45	1.6	49	1.9

Cultural resources	Culture and manners	36	1.8	16	0.7	53	3.0	87	3.3	298	10.4	372	14.5
	Historical relics	57	2.8	17	0.8	39	2.2	78	3	131	4.6	345	13.5
	Events and special exhibitions	243	11.9	52	2.4	37	2.1	33	1.3	133	4.6	161	6.3
Consumption resources	Lodging	12	0.6	48	2.2	53	3.0	0	0	112	3.9	89	3.5
	Food and drink	132	6.5	103	4.7	44	2.5	64	2.5	158	5.5	137	5.4
	Fee collection	77	3.8	17	0.8	3	0.2	35	1.3	103	3.6	67	2.6
Total		2044	100	2206	100	1795	100	2598	100	2877	100	2557	100

(1) : Frequency ; (2) Ratio ; Source: compiled by this study

In terms of overall evaluation, Table 5 shows that the six national parks had extremely high overall positive evaluations, with ratios of 90.1%, 91.2%, 94.3%, 96.5%, 94.8%, and 98.8%; Taroko National Park and Yushan National Park had no negative evaluations.

Table 5: Results of frequency distribution of web page evaluation analysis items for national parks

Aspect	Details	Yangmingshan		Kenting		Yushan		Shei-pa		Taroko		Kiinmen	
		(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Evaluation	Positive	439	90.1	384	91.2	410	94.3	388	96.5	471	94.8	400	98.8
	Negative	2	0.41	4	0.95	0	0	2	0.50	0	0	1	0.25
	Neutral	46	9.45	33	7.84	25	5.75	12	2.99	26	5.23	4	0.99
Total		487	100	421	100	435	100	402	100	497	100	405	100

(1) : Frequency ; (2) Ratio ; Source: compiled by this study

Results of Correspondence Analysis

This study chooses and processes the feature terms summarized upon capture from web page content, then uses Excel and XLSTAT software to conduct correspondence analysis in order to understand tourist's Internet word-of-mouth regarding national parks, and finally, uses a two-dimensional positioning diagram to express the relative positions of the categories of data to express the corresponding relationships between feature items and national parks. Active margin refers to the instances of comparison used for analysis between the two variables in the two item cross table. Table 6 shows that in the rows, the item with strongest active margin is scenery, followed by ecology; among such rows, the majority belongs to Taroko.

Table 6: National parks Internet word-of-mouth correspondence chart

Feature terms	Yangmingshan	Kenting	Yushan	Shei-pa	Taroko	Kiinmen	Active margin
Parking lots	67	31	33	36	46	1	214
Restrooms	9	12	10	0	44	0	75
Trash cans	0	0	5	0	22	0	27
Route guidance boards	37	106	85	190	85	0	503
Security facilities	0	0	29	82	45	0	156
Convenient transportation	114	0	10	115	0	0	239
Paths	96	197	128	220	169	16	826
Viewing platforms	9	148	30	80	91	81	439
Campgrounds	16	0	54	0	22	84	176
Recreational facilities	101	90	83	238	73	16	601
Scenery	399	378	328	338	429	160	2032
Special views	105	223	191	160	316	113	1108
Ecology	415	354	303	354	135	193	1754
Briefing room	0	132	29	87	68	97	413

Explanatory boards	33	122	111	145	145	214	770
Display facilities	19	48	18	56	144	256	541
Promotional publications	0	23	13	6	41	28	111
Guide personnel	29	82	95	88	22	78	394
Website information services	38	7	11	106	45	49	256
Culture and manners	36	16	53	87	298	372	862
Historical relics	57	17	39	78	131	345	667
Events and special exhibitions	243	52	37	33	133	161	659
Lodging	12	48	53	0	112	89	314
Food and drink	132	103	44	64	158	137	638
Fee collection	77	17	3	35	103	67	302
Active margin	2044	2206	1795	2598	2877	2557	14077

Source: compiled by this study

Table 7 shows that the eigenvalue is 0.094, and the degree of freedom is 150.

Table 7: Internet word-of-mouth of national parks correspondence analysis summary chart

Dimension	Eigenvalue	Inertia (%)	Cumulative %	df	Chi-square	p-value
1	0.048	51.004	51.004			
2	0.019	20.799	71.802			
3	0.013	13.598	85.401			
4	0.009	9.387	94.788			
5	0.005	5.212	100			
Total	0.094			150	5276.691	< 0.0001

Source: compiled by this study

The two-dimensional positioning diagram method is used to show the relationships between different national parks and the eigenvalues of each aspect, where the distance and proximity of each point is used to represent corresponding relationships of different strengths. Items with original occurrences of fewer than 50 are deleted in order to elevate identification in the two-dimensional positioning diagram. Figure 4 shows the distribution of different national parks, which shows that Shei-pa National Park, Yushan National Park, and Kenting National Park are located in regions with high competition, while the other national parks are located in independent areas without significant competitive relationships. In terms of geographical location, national parks in highly competitive areas are all in central and southern Taiwan, while Yangmingshan National Park is in the north, Taroko National Park is in the east, and Kinmen National Park is on an offshore island; due to the geological differences, transportation accessibility creates market differentiation.

In terms of Internet word-of-mouth characteristics, it can be divided into three independent groups. In the three independent groups, scenery and ecology have high levels of importance and satisfaction items, which show that scenery and ecology are essential conditions for national parks in Taiwan. In the analysis of Internet word-of-mouth, the coordinates of Shei-pa National Park, Yushan National Park, and Kenting National Park are closest for the items of paths, guide personnel, special views, and path signs, which show that among the three national parks in highly competitive areas, all have higher customer emphasis and satisfaction in the above items. This is because Shei-pa National Park, Yushan National Park, and Kenting National Park all have renowned paths, and all have famous special landscape and scenery.

Yangmingshan National Park is not distant from each point, and Figure 4 shows that parking lots and convenient transportation are exclusive competitive advantages with greater importance and satisfaction. Yangmingshan is located in the north with a dense population, thus, planning transportation and parking lots are more important.

Kinmen National Park is closer to the feature terms of historical relics, humanistic style, campgrounds, and display facilities, which shows that customers place greater emphasis on these items and have greater satisfaction. Kinmen National Park was originally an important defense base for the national military, and after it was reconstructed into a national park, many cultural and historical assets were maintained, such as the war history museum and platforms. Thus, it has unique advantages in terms of culture and history among national parks.

In the quadrant where Taroko National Park is located, the items with higher competitive advantage are explanatory boards, lodging, humanistic style, display facilities, briefing room, and promotional publications. Taroko is located in eastern Taiwan, with abundant eastern aborigine and humanistic culture. The park has planned comprehensive cultural explanation facilities, multimedia briefing room, and good publications that introduce the culture of eastern Taiwan; therefore, it has unique competitive advantages in the above items, with higher customer satisfaction and emphasis.

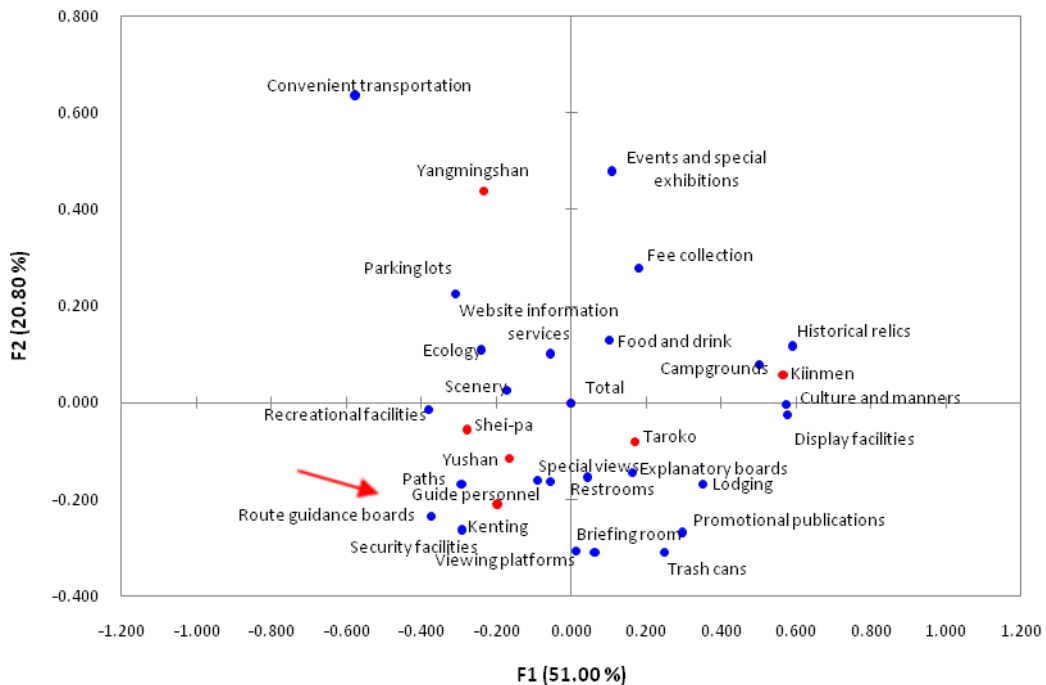


Figure 4: National parks online word-of-mouth position diagram

CONCLUSIONS AND SUGGESTIONS

Conclusions

This study collected Internet postings from blogs between January 1, 2008 to December 31, 2010, and the databases of Internet information exchange platforms, such as blogs in Yahoo Blog and Wretch,

as the source of data for analyzing word-of-mouth and capturing blog posts to serve for Internet word-of-mouth data analysis. A total of 2647 valid samples were collected.

This study treated the tourists of the six national parks in Taiwan as research subjects. The research results showed that in the analytical items of Internet word-of-mouth, Shei-pa National Park and Yangmingshan National Park are the same, with tourists who place the most importance on scenery, followed by ecology. Kenting National Park is the same as Yushan National Park, in which tourists emphasize ecology the most, followed by scenery. Taroko National Park tourists emphasize scenery, followed by culture and manners. Tourists of Kinmen National Park emphasize culture and manners the most, followed by historical relics. Overall, tourists of national parks placed the most importance on the aspect of natural resources.

The two-dimensional positioning diagram results of correspondence analysis showed that tourists emphasize different items at different national parks. Kenting National Park, Yushan National Park, and Shei-pa National Park are located in regions with high competition, while Taroko National Park, Kinmen National Park, and Kenting National Park are located in independent areas with clear themes, and have their own unique competitive advantages. In terms of geographical location, national parks in high competition areas are all in central and southern Taiwan, while Yangmingshan National Park is in the north, Taroko National Park is in the east, and Kinmen National Park is on an offshore island; due to the geological differences, transportation accessibility create market differentiation.

The coordinates of Shei-pa National Park, Yushan National Park, and Kenting National Park are closest to the items of paths, guide personnel, special views, and path signs, which show that among the three national parks in highly competitive areas, they all have higher customer emphasis and satisfaction in the above items. This is because Shei-pa National Park, Yushan National Park, and Kenting National Park all have renowned paths with famous special landscapes and scenery.

Kinmen National Park and Taroko National Park both have unique historical and humanities resources; however, Kinmen National Park has cultural resources, such as a rich wartime historical culture, a wine factory, and Shisa; while Taroko has abundant aborigine and eastern cultural characteristics, thus, the two do not have a significant competitive relationship.

Tourism has become an important industry for Taiwan; with trends of globalization and permission for Chinese tourists to travel in Taiwan, national parks have become popular destinations for tourists. The importance placed upon tourism evaluations is an indicator of the quality of national park reputations. Thus, it is necessary for authorities to continuously elevate service quality, which would be helpful in increasing the number of tourists, as well as surrounding business opportunities.

Suggestions

Based on the research results, this study proposes the following suggestions for authorities of national parks:

1. Tourists in Yangmingshan National Park place most importance on ecology, followed by scenery, events and special exhibitions, food and drink, and convenient transportation. The park is located in northern Taiwan, with a higher population density, and is the only national parks in the north; thus, it is a priority location for northerners wishing to experience nature. Therefore, natural resources and convenient transportation should be used to develop unique products of culture and manners in order to develop cultural resources unique to Yangmingshan.
2. Tourists in Shei-pa National Park place most emphasis on ecology, followed by scenery, paths, special views, while Yushan National Park tourists place most emphasis on scenery, followed by ecology,

recreational facilities, and paths. Shei-pa National Park and Yushan National Park are geographically close, and have similar competitive advantages; however, the two national parks do not have high cultural resources. It is possible to make joint arrangements with local cultural festivals or customs to develop unique cultural resources and form specialized cultural events.

3. Tourists in Kenting National Park place most emphasis on scenery, followed by ecology, special views, paths, and viewing platforms. Kenting is located on the southernmost point of Taiwan, thus, its geographical location forms market differentiation. It also has the unique advantages of Nanren Lake, nearby aquariums, and the coral reef. The various scenic spots can be combined in a discount tour, to increase the value of Kenting National Park for customers.
4. Tourists in Taroko National Park place most emphasis on scenery, followed by special views, culture and manners, and paths. The park is located in eastern Taiwan, thus, its geographical location creates market differentiation. In addition, it has the unique advantages of aborigine culture and Taroko Gorge, and each year there are cultural events, such as music festivals. However, transportation is not as convenient as in western Taiwan. It is suggested that authorities can cooperate with nearby lodging businesses to plan special tours and create more business opportunities in lodging.
5. Tourists in Kinmen National Park place most emphasis on culture and manners, followed by historical relics, explanatory boards, and ecology. The park is located in Kinmen, which used to be a military stronghold. The island has plentiful wartime historical relics, fortresses, and unique cultural points, such as the Kinmen Wine Factory, cannons, steel knives, and Shisa, all of which are unique Kinmen National Park advantages. It is suggested that the authorities can cooperate with related businesses to plan tours to increase leisure attractions.

REFERENCES

- Bickart B., Schindler R.M.(2001).“Internet forums as influential sources of consumer information”, *Journal of Interactive Marketing* (15:3), pp.31-40.
- Blackwell, R.D., Miniard,P.W., & Engel,J.F.(2006).*Consumer Behavior*. Cincinnati, Ohio:South Western College Publisher.
- Chen C. F., & Chen F. S. (2010). Experience quality, perceived value, satisfaction and behavioral intentions for heritage tourists. *Tourism Management*, 31, 29-35.
- Chen, H.J. (2004). *Correlation between Characteristics of Tourists in Taiwanese National Parks and Explanation Service Satisfaction*. Master’s thesis, Graduate Institute of Management Science, Ming Chuan University, unpublished, Taipei City.
- Chen, S.M. (2007). *Tourist Reactions to Ecological Tourism Management of National Parks*. Master’s thesis, Graduate Institute of Agriculture, National Chiayi University, unpublished, Chiayi.
- Chuang, Y.C., Chen, H.P., Chen, Y.J. (2010). Correlation between Service Quality, Perceived Value, and Satisfaction –Using Xitou Natural Education Park as Example. *Journal of Island Tourism Research*, 3(3), 45-62.
- Fonseca, Jaime R.S., 2009. Customer satisfaction study via a latent segment model. *Journal of Retailing and Consumer Services*,16 (5), 352-359.
- Han, Y.T. (2007). *Using Mindfulness Theory to Explore the Guide Facilities at National Parks – A Case Study of Yangmingshan National Park*. Master’s thesis, Graduate Institute of Tourism Business Management, Nan Hua University, unpublished, Chiayi.
- Hanson, W. A.(2000). *Principles of Internet Marketing*, Ohio: South-Western College Publishing.
- Herr, Paul M., Frank R. Kardes, and John Kim (1991), Effects of Word-of-Mouth and Product-Attribute Information on Persuasion: An Accessibility-Diagnosticity Perspective, *Journal of Consumer Research*, 17 (4), 454-462.
- Kolter, P. (1999). *Marketing for hospitality and tourism*. New York: Prentice-Hall.

- Kuan, Y.T. (2005). *Taroko National Park Tourist Travel Satisfaction*. Master's thesis, Graduate Institute of Technology Management, Chung Hua University, unpublished, Hsinchu City.
- Lai, C.F., Chen, C.H., Huang, H.C. (2009). Development of National Park Systems in America and Travel Services. *Fujian Agriculture and Forestry University School of Management and Economics*, 5(29), 448-453.
- Lain, F.S. (2003). *Factors that Influence Tourist Recreational Satisfaction – Utilization of Multilevel Linear Models*. Master's thesis, Chao Yang University of Technology, unpublished, Taichung City.
- Li, C.N. (2009). *Research of Travel Satisfaction and Revisit Intentions in Recreational Areas in High Mountains-Using Wushe, Qingjing, and Hehuanshan Recreational Areas*. Master's thesis, Department of Transportation Technology and Management, Feng Chia University, unpublished, Taichung City.
- Lin, P.H. (2004). *Service Quality of National Parks ---Using Kenting National Park as an Example*. Master's thesis, Graduate Institute of Agribusiness Management, National Pingtung University of Technology, unpublished, Pingtung.
- Lu, Y.H.(2010). *Relationship between Motivation and Satisfaction for Traveling in Taiwan by Chinese Tourists – Alishan Forest Recreational Area as Example*. Master's thesis, Graduate Institute of Agriculture, National Chiayi University, unpublished, Chiayi.
- Ma, C.H. (2009). *Customer Satisfaction Analysis for Yushan National Park*. Master's thesis, Graduate Institute of Engineering Technology, Overseas Chinese University, unpublished, Taichung City.
- Muller, W. (1991). Gaining competitive advantage through customer satisfaction, *European Management Journal*, June, 201-221.
- Ting, H.A. (2005). *Advertisement Cannot Control Consumers!*. Shijr City: China Productivity Center.
- Wei, H.C.(2004). *National Parks in Taiwan*. Yuan Zu Culture: Taipei County.
- Wu, C.H., Huang, T.C., Chiu, T.L.(2004). Yushan National Park Tourist Recreation Motivations, Expectations, Experiences, Satisfaction, and Revisit Intentions. *Journal of National Park*, 14(2), 23-41.
- Yen, C.C.(2004). Establishment and Application of Usage Evaluation Criteria for Opening of Stream Hot Springs - Using Bayan Hot Spring in Yangmingshan National Park as an Example. 2004 Cross-Straits Symposium on Development of Leisure Agriculture, *Tourism, and Travel*, 85-92.
- Yoon, Y., & Uysal, M. (2005). An examination of the effects of motivation and satisfaction on destination loyalty: A structural model. *Tourism Management*, 26, 45-56.
- You, K.H. (2010). *Yushan National Park Recreational Information and Facilities Satisfaction Survey- Tataka Park as Example*. Master's thesis, Graduate Institute of Finance, Chao Yang University of Technology, unpublished, Taichung City.